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no. 25

THE PRACTICAL PHOTOGRAPHER

(LIBRARY SERIES)

EDITED BY REV. F. C. LAMBERT, M.A.

NUMBER 25.

The Pictorial Work of
Percy Lewis.

Pictorial Printing.

(Part 2)

Combination Printing

(A. Horsley Hinton).

Combination Enlarging

(C. Winthrop Somerville).

Cloud Negatives and
Cloud Printing

(The Editor).

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October, 1905.



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Library Series.

Pictorial Printing.

No. 25.

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Editorial and other Notes.

Our next number will be devoted to **Night, Flash-light** and other **Artificial Light Photography**, and will contain reproductions of several choice examples of Pictorial Photography by **Mr. Percy Lewis**.

Will readers of this volume kindly bear in mind that it is a sequel or companion to Volume 24 and tacitly assumes that the reader is already in possession of that number?

Other numbers now in active preparation will deal with **Photographic Curiosities (Ghosts, Doubles, etc.)**. **Ozotype**. **Telephotography**. **Iron Printing**. **Oil Printing**. **Minor Printing Processes**. **Lenses**. **Photographic Optics**. **Chemistry for Photographers**. **Photo-micrography**. **Stereoscopy**. **Optical Lantern**. **Trichromatic Photography**. **Finishing the Print**. **Pictorial Composition** (second part). **Gaslight Papers**. **Copying**. **Portraiture** (second part), etc.

The Editor will be glad to consider suggestions regarding subjects or topics which any reader thinks might desirably be added to the foregoing list.

N.B.—Will readers who feel disposed to co-operate in the preparation of any of the above numbers kindly communicate with the Editor forthwith?

The Editor is always willing to give careful consideration to *Short Practical Notes* on any of the subjects in preparation.

All matter published is paid for at one uniform rate.

Special Junior Salon for Beginners.

See page viii.

Criticism of Prints.

It is our desire to make the criticism of prints a special feature in our pages. The Editor gives his personal careful attention to this matter, and aims at making every criticism a practical, interesting, and instructive object-lesson. By paying attention to the hints thus given, often a poor print may be improved and a good print followed by one still better. In order to encourage readers to take great care in the preparation of the prints they send us, we offer **Fifteen Shillings in Prizes** for the best three, four, five, or six prints sent in each month. The winning prints will not be returned. (See Coupon).

Print Criticism. Awards:

The prints sent in during last month, *viz.*, August, fully maintained the high standard of efficiency and variety. We are glad to notice that some of the competitors who recently were low down on the list are now steadily going forward. The following six were assigned the places of award:—O. C. Wilmot, "Solace of Old Age"; F. H. Cliffe, "Summer Time"; F. E. Tinker, "The Golden Hour"; Miss D. M. Sandford, "Honeysuckle"; J. W. Goldson, "After the Storm"; J. C. Stevenson, "Two Burdens." The following were adjudged to be the next six:—J. H. Saunders, J. Johnson, W. H. House, R. E. Duberly, E. S. Maples, J. M. Brennan. These six were, in turn, pressed very close by several other competitors whom we fully expect to see in the award list before the year is out.

THE PRACTICAL PHOTOGRAPHER.

General Notices.

1. It is particularly requested that any errors in the spelling of **Award Winners' names** should be notified to the Editor immediately they are observed.

2. Will contributors to our various competitions kindly refrain from sending *under one cover* prints for *different* competitions? This not only gives us considerable trouble, but involves the risk of the various pictures not being properly entered for the competition for which they are intended. It is far better for all concerned to send each lot of prints in separate parcels.

3. Will competitors please notice that the latest date for receiving prints for our competitions is that given on the coupon, and that we *cannot admit late arrivals*?

4. Will competitors please bear in mind (1) that the judging and criticism cannot be done until after the closing date of the competition, (2) that we go to press before the 25th of the month, and (3) that the criticism of a large number of prints takes considerable time?

5. In response to numerous requests from our correspondents we have pleasure to announce that we will do our best as far as space permits to reply to queries of a photographic nature. Will querists please (1) write plainly, (2) on one side of the paper, (3) as briefly as is consistent with clearness, and (4) give us the indulgence of their kind patience? (*Vide* Coupon).

Beginners' Junior Salon.

See page viii.

Pictures for Exhibitions.

To meet the convenience of those readers who are preparing prints for special dates (exhibitions, etc.), and cannot conveniently wait for printed criticism in our columns, we have arranged that readers may send us one, two or three prints with the usual Print Criticism Coupon and a fee of *one shilling for each print sent*. Within a week the prints, accompanied by a criticism, will be returned to the sender. The return postage must be prepaid in the usual way as in Rule 5 (*vide* Coupon). The fee must be sent with a letter (marked "Print Criticism Special") and coupon to the Editor, and not enclosed with the prints. Each print must bear on the back the name and address of the sender.

Important Announcement.

The Practical Photographers' Dictionary of Daily Practice.

(Now Ready.)

This book deals with the "thousand and one" little difficulties, stumbling blocks and doubts which crop up at unexpected moments and find the expert and tyro unprepared.

The book is arranged in Alphabetical or Dictionary form and thus any matter can be found *instantly*.

It also contains a set of indices to the first twelve volumes of this present series of *The Practical Photographer*, thus further extending its usefulness beyond its own covers.

It also contains a vast array of reliable formulæ—arranged in alphabetical order for ready reference.

For outline of contents, see page xvii.

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This Coupon Expires October 31st, 1905.
THE PRACTICAL PHOTOGRAPHER. COUPON No. 55.

Prints for Criticism (or Queries).

RULES.

1. Write legibly, on one side of the paper only.
2. Put your name, address, and a number on the back of each print, and enclose this coupon.
3. Do not send more than three prints with one coupon.
4. State the *Month, Hour, Light, Plate Speed, Stop, Exposure, Developer, Printing and Toning* process employed.
5. If prints are to be returned, a stamped and addressed label or envelope *must* be sent **with the prints**.
6. The Editor reserves the right of reproducing any print sent in for criticism.
7. Prints should be addressed:—THE EDITOR OF *The Practical Photographer* (Print Criticism), 27, PATERNOSTER ROW, LONDON, E.C.



THE PRACTICAL PHOTOGRAPHER. COUPON No. 56.

Pictorial Printing Competition.

Name

Address

WRITE LEGIBLY.

This Coupon Expires December 31st, 1905.

Pictorial Printing Competition.

Silver and Bronze Plaques, and Certificates will be placed at the disposal of the Judges.

1. This Competition is designed to draw attention to the profoundly important subject of getting the utmost pictorial value from a negative as outlined in this and the following numbers. Competitors are not confined to the methods of working herein given.
2. A companion Coupon was issued in our last number. Competitors may submit two pairs of prints with each Coupon. Each pair of prints must consist of (A) a "straight print" from the untouched negative; and (B) a companion print showing pictorial improvement by control, local treatment, etc.
3. Each print must bear on the back of the mount the title, name and address of the producer, and full details as to date, plate, stop, exposure of the negative, and **printing procedure**.
4. Marks will be given for Technical and Pictorial quality. The mounting and titling will also be taken into account.
5. The Editor reserves the right to reproduce *any* prints sent in to this competition.
6. The Winning Prints will *not* be returned. Others will be returned, together with a brief criticism, if a stamped and addressed envelope or label be sent **with the prints**.
7. Prints must reach us not later than **December 31st, 1905**, addressed:—

The Editor of *The Practical Photographer*
(Pictorial Printing Competition),
27, Paternoster Row, London, E.C.

ART OF THE PRESENT DAY SERIES.

Edited by **WALTER SHAW SPARROW.**

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The Work of **LUCY E. KEMP-WELCH.**

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Four Reproductions in Colour,
Seventeen Rembrandt Photogravures.**

(Size of page, $11\frac{3}{4} \times 16\frac{1}{2}$).

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Kindly mention "The Practical Photographer."



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THE PRACTICAL PHOTOGRAPHER.

Library Series.

No. 25.

The Pictorial Work of Percy Lewis.

By THE EDITOR.

VERY few indeed are those who are able to see the things around them in anything like their true proportion. The historian requires a mental lens of, let us say, the focal length of half a century. But when the true history of the rise of English pictorial photography comes to be written hereafter, it is easy to prophesy that the class of work of which Mr. Percy Lewis is so able an exponent will occupy an important place. Moreover, his own examples will assuredly obtain special interest, inasmuch as they, for the most part, are subjects found abroad, yet treated in a manner in accordance with the best traditions of English art.

Mr. Lewis has an advantage over many of us in having started his photographic career at an early age and under the expert guidance of his father, Mr. Abel Lewis, a well-known and widely-experienced photographer these many years past. Young Lewis has the rare good sense to acknowledge the great value of such able tuition both in matters technical and pictorial. Some years' study in the School of Art at Douglas supplemented the parental guidance.

Those who have from time to time seen examples of his work will hardly need to be told that he is

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an expert worker both in platinotype and carbon printing. The former is usually preferred for portraiture or figure groups, while the latter is generally employed for figures with landscape, and we need hardly add that it is this last-named class of work that holds the warmest corner in his affection. Like many other workers who dare to think for themselves, and are strong enough to resist the fashion-wave of exhibition work which year by year plays erratic gambols, he has long ago learned that pure landscape in photographic monochrome is very apt to be "flat, stale" and of but momentary interest. But if the subtle touch of human figures and interests be aptly introduced, such pictures are more likely to be of continuous interest. We need hardly do more than mention such names as Constable, Gainsborough and Cox to show that this view is in accord with the best traditions of English art. And in reply to those who would confound us by asking "What about Turner," we would invite their attention to the views of Ruskin on this topic. For he has abundantly shown that the overwhelming majority of Turner's works contain either human figures or immediate indications of human occupations and interests.

Mr. Lewis takes a decidedly hopeful view as to the promises of pictorial photography in spite of the regretted "tendency towards eccentricity and the avoidance or ignorance of the elementary rules of composition by some of the 'leading lights.' There is also abundant evidence of a lack of technical qualities." We fully agree with his view that photography is an art as well as a craft, and that excellence in one direction does not excuse ignorance or slipshod work in the other. "Surely a man who can show a strong piece of work in both respects is greater than he who can only show excellence on one side only."

One of the strong points in favour of photography is that it enables those possessed of artistic temperament and insight, who have not had the opportunity of becoming expert draughtsmen, to produce which would otherwise be quite unattainable. On the other hand, he recognises among its

THE PICTORIAL WORK OF PERCY LEWIS.

weak points the fatal facility with which indifferent and tasteless results may now-a-days be produced with but a modicum of attention. Few people adequately realize that photography, just like every other art process, calls for thoughtful study and discriminative taste for the production of anything deserving of serious attention.

In addition to photography Mr. Lewis finds time for the exercise of his other hobby, viz., the violoncello, and when we mention that he is a member of the famous Clifton Quintett, we need hardly add that his musical skill and tastes are of the first rank.

Fig. 1. An Italian Fruit-stall.—Possibly this picture will be felt to be the most convincing of the series—in the sense of striking a keynote, as it were, by reason of its obviously foreign origin and vigorous scheme of light and shade. The picture certainly may be regarded as fairly typical of our artist's style, and will fully support his views as to the far-reaching importance of the inclusion of harmonious figures and human interests. Here, as in all his other examples, there is no uncertain note as to whether it is a case of figure with landscape or landscape with figure, if we may for a moment extend the term landscape to include a street scene.

Fig. 2. Corte Abbazia, Venice.—This picture at once appeals to us by reason of the old-world air pervading the entire scene. The figure at the well-head seems to fit the surroundings exactly. The strong light and shade contrasts tells of southern climes, favourable to the growth of the luxurious foliage in a land where nature's offerings are abundant and time flows calmly on. The picture though "full," is yet not overcrowded.

Fig. 3. An Old Courtyard.—Although this picture is rather less full than some of the others in this series, it is none the less interesting and successful on that account; indeed its comparative simple nature will, doubtless, make it a special favourite with many of our readers. It is perhaps just a little unfortunate that the head of the

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standing figure is somewhat complicated by the patch of light background beyond it. Otherwise the picture is one that appeals to us with very special force and directness.

Fig. 4. A Village Street, Iseo, Italy.—There seems to be a natural connection between the sunshine among things mundane and the happy brightness of young life. Take away the figures from this scene and we have left a subject by no means promising for pictorial purposes, but their presence and arrangement entirely transforms the scene. The student must not fail to notice the admirable distribution of light and shade, and once again he may learn the important lesson that it is *not* harsh contrast of light and shade, but transparency and luminosity in the shadows, that convey the suggestion of bright sunshine.

Fig. 5. A Fruit Boat, Venice.—We town dwellers, surrounded by streets made hateful by the yelling newsboy, the rattle of the butchers' or bakers' carts, and evil-smelling ear-splitting motors, can look on such a green-grocer as this with something akin to grateful affection, being happy in our ignorance of any and all of the drawbacks of these waterways. Not the least interesting feature in this study is the rendering of the water with wriggling, snake-like reflections, its lights, shades and shadows, for it is not often that we get them all in one study as we do here. The picture unfortunately suffers from having been taken at such an elevation above water level as to suggest accentuated perspective effects.

Fig. 6. A Street Scene, Burano.—Here we have an excellent illustration of harmonious grouping of figures, such as calls for the instant action of a hand, trained to obey an eye quick to seize an opportune moment. The carping critic may urge that there are some figures in the distance which have no lot or part in the foreground group. But in this instance they are of such minor importance that this disconnection may be neglected and their presence welcomed as an aid in suggesting the retreating planes of the picture. The student should

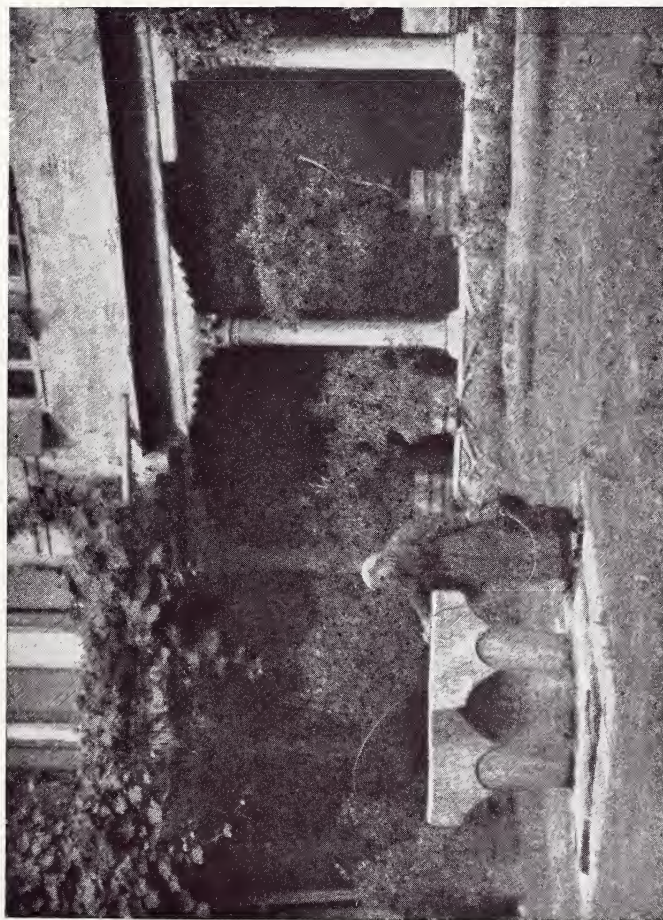


Fig. 2 (p. 3).

გორჯე ჩხაიძე, უნივე.

Percy Lewis.

AN
OLD
COURT-
YARD.

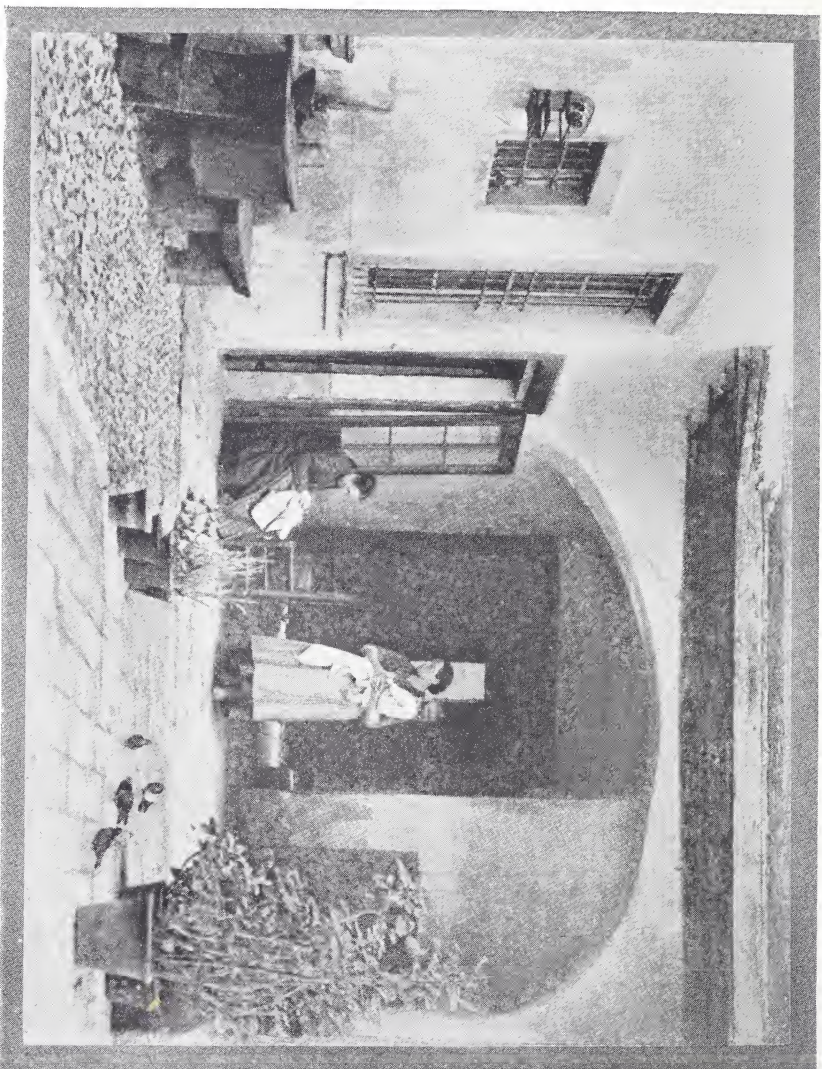


Fig. 3 (p. 3).

THE PICTORIAL WORK OF PERCY LEWIS.

note that the single figure in the doorway to our left is by her pose and position satisfactorily connected with the other figures, although she is separated from them by an appreciable distance.

Fig. 7. The Quay-side, Chioggia.—In this instance the artist does not seem to have been quite so successful as usual in the matter of the arrangement of the figures. The larger group of four persons, three of whom have their backs to us, are very happily placed, but the other three figures towards our left seem more or less disconnected from each other and also the other group. The peep of distance to our right is a valuable factor in this composition. The student will notice the admirable "breadth" in the chiaroscuro, and also how the composition is helped by that part of it seen through the arch in such perspective that a sense of distance is well suggested.

Fig. 8. Patience.—There is an air of quaintness, half-comical, half-pathetic, about this solitary old fisherman that at once makes a direct appeal to our sympathies and imagination. The general scheme of the composition, though perhaps a trifle formal or severe, is by no means without its special attractions. Indeed, the half-unconventional, half-geometric design of the street in strong sun has a special attractiveness.

We have already referred to the value of *suitable* figures agreeably disposed and naturally posed, and would like to reiterate our previously given advice as to avoiding the grave but common mistake of dividing the spectator's interest between the foreground and background, the land and sky, the figures and their surroundings. But as example is often more forceful and convincing than precept, we are glad to have this opportunity of pointing to the accompanying examples by Mr. Lewis, and at the same time very heartily thanking him for his valued teaching in this as well as many other respects, and for his very great kindness in placing at our disposal a folio of his charming and original work from which we have made the accompanying selection.

Introduction to Cloud Negative Making and Printing.



OUR English word "*Cloud*" seems to be derived from the Anglo-Saxon *Clūd*, meaning a rounded hill. In some parts of the north of England we still hear the word with its old pronunciation—cloud—and we can well understand our forefathers likening the cloud forms to "hills and mountains in the sky." And, by the way, our word sky—which nowadays we sometimes employ in a general sense for cloud and sky, sometimes for the sky as distinguished from the clouds—used to mean in mediæval times what we now denominate by the word clouds, and in Scandinavia still retains that meaning. It comes to us from the Anglo-Saxon *Skia*, a shade or covering shadow.

The practical and pictorial photographer need not trouble himself very deeply about the scientific aspect of the question, but at the same time a few general hints may save him from making pictorial blunders, such as the printing in, near the horizon, such forms of clouds as are only seen over our heads, etc.

Formation of Clouds.

Suppose we put a kettleful of water on the fire and wait until the water boils, *i.e.*, the water is converted from liquid to gas form. Let us now hold a piece of newspaper near the spout and use it as a background. We shall notice that as the steam or water-gas rushes from the spout it forms a white cloud-like body. This we usually, but wrongly, call steam. A more careful glance will show us that the steam as it rushes from the orifice of the spout is as invisible as air, and we can see the printed page through it. But as this hot water-gas or steam meets the cooler air of the room, the water-gas is re-converted to water, but it is now in the form of a very large number of very tiny drops. Now this cloud of tiny water-drops in its process of formation has parted with some heat and warmed the surrounding air, and so

INTRODUCTION TO CLOUD NEGATIVE MAKING & PRINTING.

we see that the "steam-cloud" rises and spreads out. But very soon these tiny water-drops evaporate and are lost to sight in the surrounding air which is not yet saturated with moisture. If the room be small, and our kettle kept boiling for some time, we shall notice that our "steam-cloud" does not vanish so quickly as it did at first, because the air is getting more charged with water vapour. Presently there comes a time when the air can take up no more water vapour, and the steam cloud hangs suspended in the air, but presently sinks down towards the floor. If now we introduce a current of cold air, *e.g.*, by opening the window or door, or bring into the room a cold thing such as a bottle filled with cold water, we shall find that the air saturated with vapour can, at the lower temperature, no longer hold the water, but deposits it in the form of fine drops, for the amount of water vapour which the air can absorb chiefly depends upon how warm or cold the air is. Hence we see the "steam cloud" hang about the cab horse's nose on a cold frosty morning much longer than when the day is warm.

The heat of the sun acting on the surface of the sea, rivers, lakes, etc., in a similar way causes the layer of air next the water to be warmed, and also more or less charged with water vapour. This warm and wet air rises and presently meets with colder air when the invisible water vapour becomes condensed generally in the form of fog, or locally in the form of cloud, or deposited as big dewdrops. If the temperature is sufficiently cold, we get snow feathers, hoar frost crystals, or hail stones. It is extremely probable that some of the light feather-looking white clouds are composed, not of water, but of very minute snow flakes, or we might call them ice dust. When fog is formed in the neighbourhood of towns where the air is laden with smoke particles, these specks of carbon or soot act as condensing centres and become surrounded by water. Hence, the special variety, designated by Sam Weller as a "London particular," leaves its traces on our hands, collars and handkerchiefs. If we hold a bit of cold glass over a smoky candle flame, and get a fine coating of soot on the glass, and

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then look at the sun through this, we notice that the sun appears more or less red, just as it does when seen at sunset through a smoke-laden atmosphere.

Forms of Clouds.

The reader has probably seen a celluloid ball dancing as it were on the top of a tiny fountain stream in some shop window. He will have noticed that while the ball keeps about the same height it is being turned round and round. Now imagine a large ball of water vapour or a steam cloud with an uprising current of warm air underneath it. We can easily see that this mass would be upheld, and at the same time slowly rotated. If we watch the form and outline of a *cumulus* cloud, we shall see it is slowly, constantly being changed, and that the upper more curved parts seem to be rolled one over the other, and melted into each other. If we turn the tap of our fountain the ball sinks down. If the warmth of the uprising, sustaining air current is reduced, our cloud ball sinks. Hence we more often see the *cumulus* clouds in the morning and afternoon. At noon time, when the sun's heat is strongest, the uprushing air is stronger and warm, and so our cloud is broken up and dispersed.

Again, if we notice a field of spread hay after a steady wind has been blowing across it, we shall see it has been rolled up into more or less parallel bands—like the sand waves on the sea shore, reminding us of the streaky, banded appearance of the *stratus* form of cloud, which are the result of a wind acting on a cloud field. If the direction of the wind be now changed, we shall get this band broken up in a chess-board-like manner, and a “mackerel sky” results. But if the wind is blowing about in eddies or whirlwinds we shall get the form of clouds known to sailors as “mares’” tails.

Classification of Cloud Forms. It is a matter of general convenience to classify cloud forms into four groups. Each group takes its name from a Latin word.

Cumulus (a heap). These are often called “thunder packs,” but they by no means always



Fig. 4 (p. 4).

Percy Lewis.

A VILLAGE STREET,
ISEO, ITALY.

А ФРУИТ БОДЛ,
ВЕНИСК.

Fig. 5a(p. 4.)

Percy Lewis.



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presage or follow thunderstorms. In fine weather they usually vanish before sunset.

Stratus (spread out). These are arranged in bands, sheets, layers, and often in a somewhat pointed form. They suggest a gentle, steady wind. As a rule they are early morning or late evening clouds, and are seldom seen towards midday hours. These are the clouds which come nearest to the earth, and in hilly districts may be seen creeping along the hill sides, and in foggy, damp weather they hang about rivers and valleys.

Cirrus (a lock of hair, curl, &c.) These are the "cats' tails" or "mares' tails" of the farmer and sailor. They are usually only faintly visible as white patches against a pale blue sky. These are the clouds farthest away from the earth, and probably are composed of ice dust, and are much the most difficult to photograph. They appear as single patches or groups, and are seldom if ever seen near the horizon. If they change form at all quickly they presage wind or change of wind.

Nimbus (a rain cloud). These are the dark rain-storm boding clouds which are usually grey or blue-black in colour. They have no definite form, but generally have raggy and torn edges. When of a blue tinge, snow or hail may be expected.

Meteorologists have elaborated various sub-classes such as *cirro-stratus*, *strato-cumulus*, etc., for those forms which are of an intermediate or two-fold character. But the four chief groups are quite sufficient for our present purpose.

When to Photograph Clouds.

The reader who has followed us up to this point will be partly enabled to answer this question for himself. Thus he will not expect to find stratus clouds at mid-day, nor nimbus forms in fine bright weather, although, of course, these combinations may occasionally occur.

Speaking generally, spring and autumn are better seasons for cumulus and cirrus than the midsummer days. Autumn and winter are best for nimbus forms. Cirrus forms are seldom seen in winter, but often on midsummer afternoons. As a rule the best time of day in spring and autumn is between eight and ten in the morning and between

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three and six in the afternoon. But, of course, the reader will not dream of limiting his cloud hunting to any season of the year or time of day.

Where to Photograph Clouds. The town dweller need not think it necessary to make a journey into the country, for often he can get a good uninterrupted sky outlook from the topmost window of the house. He must try to avoid telegraph posts or near wires, tall chimneys, trees, etc., which project much above the average line of the inevitable chimney pots. A distant tall chimney will generally come out so small in his negative that it can be worked out on the film by retouching in the usual way. The country dweller will of course seek some high ground or some such position that any hedges, trees, etc., are so far away that they will be small enough not to interfere seriously with the sky line.

Sky Line and Horizon. The reader must bear in mind that these two terms, often wrongly used synonymously, are by no means identical. The sky line is the line of demarcation between the sky and any objects, trees, hills, houses, which appear in our picture against the sky (or clouds) as background. The simplest example of the horizon is the line separating the sky and sea. This line is really part of a circle, although it appears in our picture as straight. In this case the sky line and horizon are identical. But should our sea picture include a rock standing out above the horizon, *i.e.*, against the sky, then our sky line follows the outline of the rock, but the horizon at this part of our picture is hidden by the rock.

How to Photograph Clouds. The beginner is apt to imagine that there is some mystery or difficulty here, but such is by no means the case, provided he will remember that the sky is nearly always *very* much lighter than any other part of his picture and consequently requires a correspondingly shorter exposure. Again let him remember that as a rule the difference between the lightest and darkest part of the *cloud*-scape is very much less than the difference between the lightest and darkest part of the *land*-scape. Consequently

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anything like serious over-exposure is likely to obliterate the small range of light and shade in the sky. Hence if we expose an ordinary plate on a landscape long enough to get shadow detail in the land we usually find our clouds and sky come out as practically blank in the print. Let not the beginner think that he must fly to the opposite extreme of under-exposure, for this evil is as bad as over-exposure.

Now seeing that on any day of the year the sky may range from brilliant sunshine to something approaching Egyptian darkness we cannot give any universal guide to exposure. But we have prepared a table which should be helpful as giving some approximate guide.

Exposure Table. Moderately clear sky and well-defined clouds. Orthochromatic plate (speed about 200 H. & D.)

Stop f/16.

Exposure $\frac{1}{50}$ sec. without colour screen, or $\frac{1}{10}$ sec. with a "five-times" screen.

July or May	Aug. or April.	Sep. or March.	Oct. or Feb.	Nov. to Jan.
8 a.m. or 5 p.m.	9 a.m. or 4 p.m.	10 a.m. or 3 p.m.	10 a.m. or 3 p.m.	11 a.m. to 1 p.m.

This table may be used as a starting point as it were, from which a few experiments should be made.

Ordinary plates can be used, but orthochromatic plates are particularly advantageous in this connection. If used without a colour screen sometimes we get an advantage over the ordinary plate. This is especially the case in the hours towards sunset, or in the winter months when the light generally is slightly yellow. But to get the full value a colour filter or screen should be used. This may best be of such a strength as to increase the exposure from five to ten times.

For all cloud and sky work it is all but imperative that a properly backed plate be used if anything like satisfactory results are desired.

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Stops and Focussing.

This calls for no special remark beyond observing that as our subject (clouds and sky) is practically at infinity, we do not need a stop smaller than $f/8$.

But our own habit is to use $f/16$, because it enables one to use moderate exposures, and, if we use a ten times screen, it is fairly easy to give an approximate quarter or fifth of second with the lens cap. It is not always easy to see if we have got a soft-edged cloud in focus, so the best thing to do is to focus sharply on a distant tree or chimney with $f/8$ and then insert $f/16$.

Lenses.

One might almost say that for this work, one lens is as good as another. But it is desirable that the lens used should give even definition all over the plate, and it should not be of such wide angle (*i.e.*, short focus) as to give appreciable unevenness of illumination. As clouds may be (more or less) of any size the question of long *v.* short focus is chiefly a question of perspective effect. Now when our vision attention is given to a near object, *e.g.*, foreground foliage, the human optical apparatus of the two eyes is unconsciously adjusted for a near picture plane: but as the attention wanders away towards the distant hills and so on a way to the clouds beyond, then the picture plane is shifted further and further away. Consequently our mental scale is altered. This is the very simple explanation of the well-known fact that the photographer's mountains do not look so large or lofty as those of the painter.

Similarly also when we have secured clouds and landscape on one plate, we are usually disappointed to find how insignificant our distance and clouds now appear as compared with what we thought we saw. For this reason we recommend that the focal length of the lens for sky and clouds should be about one and a half times the focal length of the lens used for the landscape. Thus, if a 5-inch lens be used on a quarter-plate, the lens for the clouds should preferably be of about $7\frac{1}{2}$ inches focal length.

Development.

The chief things to aim at are avoidance of general fog in the negative, and avoidance of excessive contrasts of



Fig. 6 (p. 4).

A Street Scene, Burano.

Percy Lewis.



THE
QUAY-
SIDE,
CHIOGGIA.

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density. Many cloud negatives are over-developed, and so print too black and white, the gradation in the highest lights being lost, while the dark clouds come far too dark and solid-looking. A cloud negative should be rather softer than a good average portrait negative, and decidedly softer and thinner than an ordinary landscape negative. The writer's favourite formulæ is his normal metol with an equal quantity of water, *e.g.* :—

Water	20 oz.
Soda sulphate	1 oz.
Soda carbonate	1 oz.
Metol	40 gr.

For clouds or portraits dilute this with an equal quantity of water (fig. 22).

Easy Introduction to Cloud Printing.

By B. GINN.



LET it be supposed that the reader has a landscape negative and also a cloud negative which are suitable to each other as regards direction of lighting, etc. If he will follow our directions step by step he will have no difficulty whatever in transferring the clouds of one negative to the blank sky of his print from the landscape negative.

Suppose both negatives are of quarter-plate size, and that we are using P.O.P. :

- 1.—Lay a quarter-plate printing frame face down on the table. Insert the landscape negative. Push this upwards and to the right so that it fits the *right-hand top corner* of the printing frame exactly.
- 2.—Take a piece of P.O.P. the exact size of the negative and in similar manner push this close up to fit the *right-hand top corner* of the printing frame and close the frame without disturbing the position of the paper.
- 3.—Expose the paper through the landscape negative just long enough to show quite distinctly the sky line.
- 4.—Remove the print and divide it *very* carefully along the sky line—using a narrow blade pair of

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(embroidery) scissors, or a finely pointed penknife and cutting on a sheet of card.

- 5.—Lay these two pieces on a sheet of card and lay over them a sheet of clear glass (to keep them flat) and expose to light so as to make them as dark as they will go. We have now a mask which exactly corresponds with the land part of our picture and another which exactly corresponds with the sky.
- 6.—Take an old thin glass quarter-plate negative and remove (with hot water and a nail brush) every particle of the gelatine film so as to have a piece of clean glass the exact size of our other two negatives in use.
- 7.—Lay on the table, dark side down, the half of the mask which blocks out the sky. At intervals of half an inch along its margins give a *tiny* touch of secotine about the size of a pin head. Now lay on the paper (glass side to paper) the sky part of the landscape negative and adjust the corners to fit and leave flat on the table for five or ten minutes. If now the negative is looked through at arm's length the mask should just block out the sky.
- 8.—Similarly fix the land mask to the clear glass, *i.e.*, corner to corner.
- 9.—Now put the landscape negative in the printing frame, and, as before, push the right-hand top corner close up to the frame. On this lay a fresh piece of printing paper—also fitted close up into the right-hand top corner, and put a pencil mark on the back of the paper to indicate this corner. Then expose the print under a sheet of tissue paper so that the paper mask on the glass side of the negative may have slightly vignetted or softened edges.
- 10.—Remove negative and print from the frame. In it lay the clear glass with mask outwards and along the lower side. Push close up to right-hand top corner. On this lay the cloud negative, also pushed up into the corner. Then transfer the landscape print—also close up to the corner. Observe that we have now two thicknesses of glass between the mask and printing paper. The print is now exposed under the cloud negative

EASY INTRODUCTION TO CLOUD PRINTING.

and examined from time to time. By covering over the printing frame with a sheet of tissue paper we shall get additional softening of the edges. If it is found that too much sky printing is creeping round the edge of the mask paper we must take the printing frame into a room and continue printing at, say, three feet from the window and so tilt the printing frame away from the window so that the edge of the paper mask is further away than the other part from the light and thus the part of the print just underneath is protected from light.

The foregoing description sounds very much more tedious and troublesome than the process really is. But if the reader will once follow the steps one by one he will in all probability ask himself "Why did I not try this years ago?"

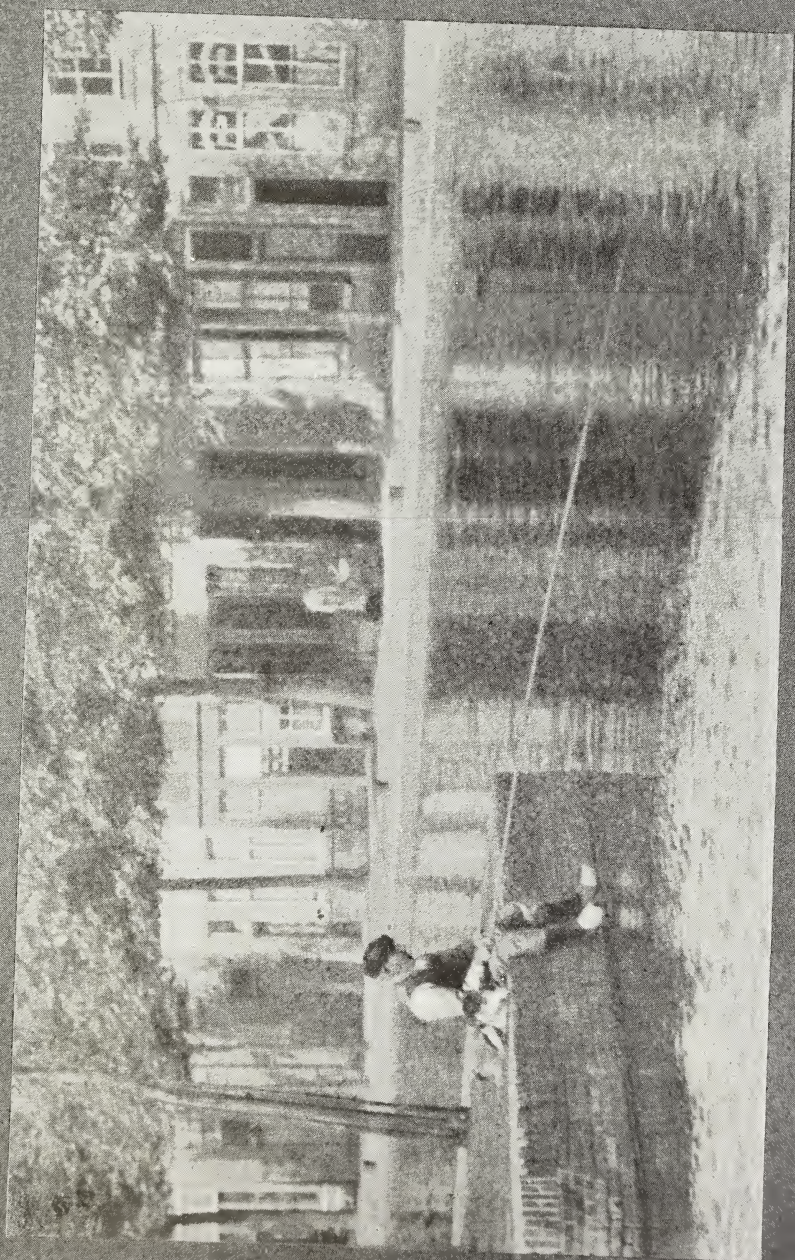
The reader must not conclude that the foregoing is the only way of combining clouds and landscape, but he may regard it as the best way for him to begin his experiments. It is capable of yielding results of the best quality and only requires practice and care.

Cloud Printing in the Carbon Process.—The following method is one of several ways whereby clouds can be printed in by the carbon process. Suppose the number of printing tints of the land and sky negatives are ascertained. The landscape negative has the sky carefully blocked out and then printed, developed, *alumed*, and *dried* in the usual way. A mask is now made for the cloud negative, but an allowance of say half an inch is given so that about that distance of cloud will overlap the land, trees, etc. The cloud part is now printed on a second piece of tissue, and then transferred to the carbon print of the land part previously made. Development is carried on as usual and then with a soft brush we remove from our print those parts of the cloud which overlap the sky line. If the landscape print has been well alumed and dried the brush does not disturb this part at all.

Cloud Printing in Platinotype Work.—Our first step is to take a P.O.P. print from the landscape negative and then very carefully divide it along the sky line. Each part of this divided mask is now

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exposed to daylight so that it may go as dark as possible all over. We have now a land mask and sky mask. Our next step is to ascertain by means of a printing gauge exactly how many printing tints are required for the landscape negative, L, and also for the cloud negative, C. Suppose L requires seven tints on the gauge and that C requires three tints. We now stop out the sky part of L by fixing to the glass side of the negative the mask already made. A piece of platinotype paper the exact size of L is taken and put in contact with L, corner to corner. Half the printing frame is closed, but the other half is held open and in a gas-lit room the frame is held up to the light and through the paper of the half-open frame we can see the demarcation of land and sky. This is carefully traced on the white back of the platinotype paper, this half of the frame closed and the other half opened and the sky line completed. Now write on the back of the paper, Sky and Land, on the two respective parts, so that you may guard against the not unlikely mistake of subsequently printing the sky on to the land part. Let us suppose our landscape negative is of half-plate size, and that the sky negative is of whole-plate size. Our next step is to fix to the glass side of the negative the land mask. This, of course, will occupy such a space and position as to shield the land part of the print. We now expose the paper below L, for seven tints on the gauge. It is then removed and transferred to cloud negative, C, and so placed that the two lower (land) corners of the print correspond in position with the two corners of the mask on the opposite side of the cloud negative. One half of the printing frame is closed. Through the other (open) half we can look through our print and see if the sky line traced on the back satisfactorily corresponds with the line or edge of the mask. The printing gauge is now charged with a fresh piece of paper and the cloud negative exposed in diffused light for three tints in the gauge. To soften or vignette the junction line of the sky mask the printing frame should be turned about two or three times during the printing so that a little light may creep round under the edge of the paper mask.





Sundry Notes.

By VARIOUS CONTRIBUTORS.



LOUD Negatives ; Exposure.—One of the most useful aids in making cloud negatives is a fairly large sky shade. This should be amply large enough to protect any direct sunlight falling on any part of the lens or shutter, and only just raised far enough to avoid cutting off a direct view of the sky. To ensure this, remove the focussing screen, and put the eye to the two lower corners of the camera opening, and look through the lens. The sky shade should be just, and only just, out of sight.

Perspective of Clouds.—This subject is of very great importance to the pictorialist, be he painter or photographer. Unfortunately we have only room for a few brief notes. Suppose we are standing at one end of a long lofty room, and looking towards the other end. Suppose our feet are at B, and A shows the position of the spectator's eye. The dotted line HK is the spectator's horizon. Suppose the floor of the room to be covered with some material showing a number of contiguous and equal squares. The nearest row of these are indicated along CBD. The general appearance of the floor is suggested by the squares as seen in perspective in the figure 50, and doubtless is sufficiently familiar to the reader.

Suppose, now, we have three boxes of equal size, and suspend them from the ceiling one behind the other, and so placed that it would just be possible to put two other and similar boxes between the three here shown. Also assume that all three are at the same height above the floor, and that F is the nearest of the three boxes. Without going into the technicalities of perspective, it must here suffice to ask the reader to notice most carefully this series of suspended boxes to our right, observing just how much one box hides the next, and the appearance of the sides and bottoms of the boxes.

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Let us still keep the three boxes the same distance apart from each other, but move them from the right to the left of our position. Move them further away, and bring them lower down, *i.e.*, nearer the floor. They will now have the appearance as shown in the figure when E is the front face of the nearest box.

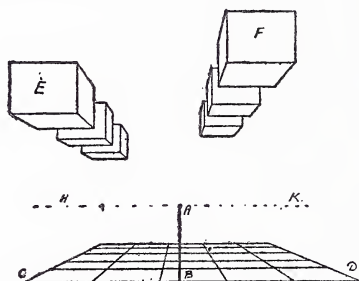


Fig. 50.

Here note again the way one box hides the next, and how the appearance of the sides and bottoms has been altered. The points to note are the difference it makes when the boxes are high up or low down, and when they are nearly overhead, or well away to one side. In place of suspended boxes we can imagine three more or less equal masses of rounded clouds.

This rough diagram will help us to understand one of the secrets of the great Turner, who, by skilful treatment of clouds and sky, was enabled to suggest the effect of great distance in his pictures. A cloud negative, showing masses of clouds one behind the other, is consequently very useful in aiding the suggestion of distance in the case of a picture having a feebly suggested distance.

Large Cloud Negatives from Small Originals.—The present writer recommends the use of a quarter-plate hand camera for the making of cloud negatives in the first instance. Dust spots and similar defects are then very carefully spotted out or retouched. The next step is to make a contact positive. For this, one should use a *slow* landscape or process plate, and it is quite essential that this should be backed. If this has not already been

done by the manufacturer, proceed as follows. Take a piece of non-shiny black paper the exact size of the negative, and coat it with glycerine, and allow this to soak into the paper for, say, half an hour, or at any rate until the paper is quite limp and soft. Now, in the dark-room lay the unexposed plate film down on a sheet of clean, dry, red blotting paper. On the glass side pour a *small* pool of glycerine, and gently and slowly spread it until it nearly covers the whole of the negative. Seize the piece of wet black paper by opposite corners, and then bring it down in a diagonal line across the back of the negative, and *slowly* lower the fingers. Now lay over the black paper a piece of blotting paper to absorb the excess of glycerine, and over this a piece of thin American cloth, and use a roller squeegee, always commencing the stroke from the centre of the negative. Our object is to bring the black paper into optical contact with the glass side of the plate, and at the same time remove any excess of glycerine, therefore moderately firm pressure is required, and every care should be taken to avoid enclosing air-bells between the glass and paper. The original cloud negative is put in the printing frame in the usual way, the slow plate put film to film in contact, and over the back of the black paper is laid a piece of American cloth, or a waste celluloid film to protect the back of the printing frame. Exposure is then made at, say, six feet from a gas flame. Our positive is developed for moderate density with due care to avoid excess of contrast. The finished and dried positive is spotted and retouched if necessary, and then put in the enlarging lantern. Focussing is done on a sheet of stout white card of the same size and thickness as the plate for the enlarged negative. Generally speaking, the slight loss of sharpness of image due to the enlargement is a gain rather than a loss, for it is a mistake to make the clouds as sharp as the landscape part of the picture. It is recommended that a quarter-plate original be enlarged to whole-plate size. J. C. B.

Advantage of Large Cloud Negatives.—By this is meant that the cloud negative is *larger* than the print: for instance, a whole-plate cloud negative

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for a half or quarter-plate print. The advantage is that we can shift the small print about on the large negative, and so try all sorts of comparisons or arrangements. Another advantage is that the same large cloud negative may be used for several different small size prints, each print having a different sky arrangement. But if the sky negative is the same size as the land negative, then we have only one possible combination and sky with the same landscape. Of course, the same cloud negative *may* be used for two different landscapes, but this is not to be recommended.

Cloudless Sky.—The beginner in photography is very likely to produce negatives which yield blank paper skies. At first the defect or fault may hardly be noticed, or be overshadowed by the pleasure of producing a print of any kind. But shortly, the falsity is observed. He will then probably rush to the opposite extreme of filling every sky space with strongly pronounced clouds and sky. His tendency will be to over-print the clouds, and overcrowd the sky space. But let him take pause for a moment, observe nature for a week or two, and he will find that we have a considerable number of days when we have either cloudless skies, or that the clouds present are few or small or scarcely noticeable. The practical lesson for the printer is that we are unwise in printing in clouds to all our pictures, and that a simple graduated sky space would frequently be more effective.

T. S.

A Cloudless Sky.—The observant worker must have noticed that there are three different kinds of cloudless skies. (1). When the sky is a depressing dull grey of one uniform tint all over. This is not unlike a fine grey mist, and partly obscures distant objects. It is chiefly an autumn and winter effect. (2). Generally the cloudless sky is more or less clear and rather lighter towards the horizon than overhead. This is the usual state of affairs towards the mid-day hours in fine weather. (3). The sky is darker towards the horizon when the air is charged with dust, as after a long spell of dry summer weather, or in the neighbourhood of smoky towns. In winter fogs, also, the same effect is often



Fig. 10.

Hilda Stevenson.

PORTRAIT STUDY.



Fig. II.

Dr. T. O. Scott.

(BRONZE PLAQUE).

noticeable, and especially towards the sunset or sunrise hours. All three effects can be easily obtained by sunning down, and often a cloudless sky properly toned down is more effective than clouds.

Sky and Cloud Negatives, if on reasonably thin glass, may generally be printed either way round, *i.e.*, by contact or through the glass, according as we want the lighting of the sky to be from our right or left. Printing through the glass gives a softer effect, which in nearly every case is an advantage. This is certainly the case when the land part of the picture is from a negative made with a pinhole in place of a lens.

To get the sharpest effect when printing through the glass two precautions are needed. First, print indoors, and put the printing frame at least as far from the window as the diagonal size of the window. For example, if the window is 6×4 ft., then put the printing frame at least $7\frac{1}{2}$ ft. from the window. Secondly, have the printing frame in the same place all the time, *i.e.*, do not turn it round or upside down after examining the print. H. P. H.

Sky as a Background.—The beginner should bear in mind that the sky and cloudscape part of his picture is virtually the background of the scene, and consequently his efforts should be directed towards employing such means as will suggest that the clouds are behind his trees, and that the sky is beyond his most distant mountains. Of course, at times we may have cloud patches between us and the more distant parts, but there are the exceptions, and in general it is advisable to regard his skyscape as a background. Hence it is seldom desirable to have any part of the skyscape darker or even as dark as the distant land. (Snowclad scenery, of course, requires exceptional consideration.) In fact, one may say that the shade of the sky may begin where that of the distant land ends in the scale of tones.

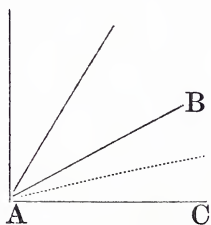
Do not buy Cloud Negatives, but make your own, and so guard against the possibly mortification of seeing your picture hung side by side with Smith-Brown's, who has also bought a copy of the *same*

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negative! You might just as well use someone else's landscape negative as a bought cloud negative and then claim the result as your own.

Do not Use the same Cloud Negative for two different pictures, however well it may suit them both, if there is any likelihood of the two prints being seen side by side, or by the same person at such short intervals of time that he will recognise that the same sky cloud has been used in both instances.

Elevating the Camera.—The beginner is exceedingly likely to make the mistake of pointing his camera far too high up in the heavens. On another page it is shown that the same clouds have different appearances according as they are high up or low down. Suppose we divide a right angle into



three equal parts thus, and suppose that with the camera at C and lens pointed along the horizontal line CA, then with the lens central the horizon of the sea would come across the middle of the plate. But if the camera be pointed towards B, we should have an elevation of 60 degrees. In practice this should be regarded as the limit. The dotted line midway between CA and CB gives us an elevation of 30 degrees, and this is to be preferred whenever we can get to an elevated position or in a flat and open country. J. J.

Dense Sky Negatives.—If the sky negative is thin enough to enable us to see the sky and land line of our landscape when the print is behind the sky negative, it is then an easy matter to keep our masking or vignetting cards moving about this line. But if this is not possible we must proceed as follows. In the retouching desk lay a piece of clear glass, then the land print face up, and then the sky negative film down. We shall now be able to see the land and sky line. Then we can easily indicate by a dotted line in white paint on the glass side of the negative where this junction is. The dotted line, however, should not follow the exact sky and

SUNDRY NOTES.

land line, but should be a quarter inch on the land side. If we make this our rule it is easy to see in imagination exactly where the land and sky line is, and so adjust our shading mask accordingly.

Clouds.—Very often the thin and delicate white cirrus patches are so very faintly indicated on our negatives that they are practically lost in the print. In such a case the clouds may be brought up to printing density by the addition of a very slight amount of some opaque oil paint, such as lamp black, vermilion, etc., and the edges very delicately softened off with a short, stiff feather or a dabber of chamois leather. But the best of all tools is the tip of the little finger. If the negative is in a firm and steady retouching desk tiny cloud forms may thus be modelled and softened on a quater-plate negative. The paint is, of course, put on the glass side of the negative. By the way, it is worth mentioning that white paint (white lead) is very useful here, as it is quite opaque, and a very little is easily seen on the darker negative.

The Sky and Landscape must not compete.—If the landscape is of a somewhat complicated nature, containing many objects of interest, or only one object of pronounced interest, then the sky and cloud part must be kept as simple as possible. But should the landscape part be tame and uninteresting, then a pictorial and attractive sky may be used. There is no reason whatever against the chief interest being in the sky. But the spectator's interest should not be *equally* divided between the land and sky.

R. D.

Home-made Clouds.—To do this with a justifying success means several things. First, a good deal of study of *cloud forms* in nature, and as they are rendered by the best landscape painters. Next a close observation as to the *kind of clouds* prevailing at certain seasons of the year, and time of day. Also the general character of landscape *light and shade effect* which accompanies the various forms of clouds and condition of sky. All these are necessary so that the added clouds may truthfully *harmonize* with the landscape. Then on the top of all comes the necessary *skill* to carry out what the

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mind requires and eye demands. Therefore, the purist who thinks to show his superiority by sneering would often find it no easy matter to accomplish what he is ever ready to condemn in the work of others.

Composition of the Sky.—It is as important to bear in mind the leading lines of the sky as of the landscape. Indeed, the sky is always to be regarded as part of the whole picture. By judicious selection of a suitable cloud form one can often strengthen the composition of the land part by adding balancing lines, drawing attention to certain parts, and so on.

A. M. D.

Shadows.—When the sun is not obscured we get cast shadows. Their form and position tell us where the sun is though it may not be visible in the picture. If the scene is thus a sunlit one we must be careful to adjust the lighting of the clouds to harmonise with that of the landscape. But if the sun is obscured by clouds we do not get shadows, and thus we have a much greater range of possible cloud arrangements. Also it should be noted that when a large cloud is between us and the sun, and we are looking more or less towards the sun, then the landscape is frequently devoid of cast shadows and sometimes has the effect of diffused light.

Contrast Harmony.—Not only must the sentiment of the sky harmonise with that of the landscape, but the contrasts should be in harmony also. That is to say, if the landscape shows delicate light and shade contrasts, we must not print a sky strong in light and shade with it. Nor should a light and soft and delicate sky be blended with a landscape showing strong and striking light and shade contrasts.

Harmony of Sentiment.—The sentiment of a peaceful pastoral scene may be greatly aided by a calm and quiet-looking sky. Similarly a solitary moorland scene with wind-twisted trees may be aided by a stormy sky with wind-swept clouds, and so on.



Fig. 12.

D. Dunlop.

PLATE.



Fig. 13.

A. H. Avery.

Cowfold Monastery.

Some Common Faults in Sky Printing :—

- (1) Showing a bad *junction*, either by leaving a light space or allowing the clouds perceptibly to overlap the land.
- (2) Repeating the *sky-line* by some near line of a cloud form.
- (3) Not adjusting the *sentiment* of the sky to that of the land.
- (4) Not adjusting the *direction* of lighting of clouds to harmonise with that of the land.
- (5) Not harmonising the *contrast* of light and shade of sky to that of the land.
- (6) Permitting the *interest* of the sky to compete with that of the land.
- (7) Using clouds when a *graduated* sky would have been better.
- (8) Using clouds taken at too great an *elevation*.
- (9) Using a *sharp focus* cloud negative with a soft focus landscape.

J. G.

Classifying Cloud Negatives.—It is an easy matter to see from which direction a landscape is lighted. The difficulty always occurs in regard to the clouds. All we need to do, therefore, if we have a landscape lighted with the sun to the left is to select our cloud negative of suitable character, which has written upon it "Sun to left," and we cannot possibly go wrong. I find it very convenient to have at least four separate boxes of cloud negatives showing "Sun in front," "Sun to rear," "Left" and "Right." It saves much time and is an aid to success.

Printing Clouds on P.O.P.—If the sky part of the landscape negative is thin, block it out very carefully on the *film* side, if possible, with opaque water-colour. This can easily be removed at any time by simply immersing the negative in water and washing in the ordinary way. If the blocking-out cannot well be done on the film side apply dead black to the glass side, let it dry well, then with a sharp retouching knife scrape out carefully the outline of the horizon; then print the landscape. This done, place the print on the selected cloud negative and cover the landscape thus: Take a piece of ordinary brown cardboard of proper size and with drawing pins attach

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it to the front of the printing frame. The sky-line may be comparatively horizontal (fig. 41), or it may have an oblique direction (fig. 42) with trees shooting skywards. The card must therefore be shaped accordingly, as in figs. 43 and 44. Instead of serrations I prefer a rough edge such as is obtained from mere tearing of the cardboard; serrations may be apt to show themselves on the print. "What about sharp lining?" it may be asked. I have none. It is avoided this way: raise *ad libitum* the rough edge of the card from the frame a half-inch or an inch as may be necessary (fig. 45).

Another pin will bring the card-edge lower; a light peg will raise it higher. You may have it just where and how you please, and you may secure just the gradation of lighting which you think suitable. No hard lines are necessary.

Printing-in on Gaslight Papers.—The mistake usually made is that of failing to adapt the lighting power of the illuminant to the requirements of the particular negative and paper. Brushing away all superfluous paraphernalia, my plan was reduced to something like simplicity. Here is an inexpensive stand (fig. 46). A soap-box cost twopence; two sides, A and B, were nailed at right angles; beyond one foot, B is marked in inches up to two feet; on B is placed a Bunsen burner with the tube turned for "gas only," which is regulated as seen in the diagram by a tap. Two other pieces of wood are nailed at C and D, forming a stand for the printing frame E, which may thus be set up at any distance along D, near the edge or at the back, for the purpose of grading the lighting.

In erecting C and D my design was to have the centre of the illuminant exactly opposite the centre of the negative. This would give better light uniformity than if the centre were opposite the frame top, as it would be if C and D were absent.

For slow gaslight papers I use about one inch of magnesium ribbon; this pierces the negative much better than gas and gives a softer result. It also saves much time. Now for the cloud printing. Do the landscape in the ordinary way, with an inch of ribbon, say, at 12 inches from the negative. Change now for the proper cloud negative of the same

density as the landscape negative and erect the frame on CD. Of course, if the cloud negative is thinner than the landscape negative, we must diminish the ribbon length accordingly, and *vice versa* with a denser cloud negative.

Take now a piece of cardboard with serrated top edge. I keep a number of such cards with serrations of different depths. If you want a gentle gradation from horizon to clouds, use deep serrations; if a sharper gradation is desired, use shallower dents in the card. Hold in the right hand the length of ribbon (about six inches) by adjusting a pair of pliers to about one inch from the end; with the left hand slide slowly along the front of CD the serrated card while the ribbon is lit with the gas flame. The printing of the clouds will, of course, begin the very moment the ribbon bursts into flame, so it is well to begin sliding the card just before applying the ribbon to the flame.

For more rapid gaslight papers the gas flame is sufficiently powerful.

Application of a Whole Cloud Negative to the Landscape.—It often happens that a cloudscape is fitted on to the landscape by a graded lighting, which too obviously speaks of a separate negative.

If the sky-line of the cloudscape be adapted to that of the landscape this appearance is obliterated, and we have, moreover, a truer rendering of the relative values of the sky and landscape as a whole. Take, for instance, a picture with plenteous foreground and the sky-line high in the negative (fig. 47). Obviously very little cloud printing is possible here with this size of print. We can place over this sky-line a whole cloud negative with its sky-line (fig. 48) coincident with that of the landscape negative. By so doing we may obtain a print 8 in. \times 3 in. or 6 in. \times 4 in. from two quarter-plate negatives, and a print 12 in. \times 4½ in. or 9 in. \times 6 in. from two half-plate negatives. This is an important consideration when striving for larger pictorial results from smaller negatives (fig. 49).

There are no peculiar difficulties to encounter. Knock out the corner stays from the printing frame so as to allow free moving of the print beyond the

ends of the frame, and cover well the parts not being printed with a light-proof cover, such as a black envelope used in storing the paper.

If this printing is done on P.O.P., the sky line may be fitted to a nicety. If gaslight papers are used the sky line of the landscape negative should be marked in pencil on the back of the paper; then the cloudscape sky line may be adjusted.

Printing Clouds from small Negative on to a larger Print.—Clouds on quarter-plate negative may be easily printed on half or whole-plate bromide papers by means of an enlarging lantern or the camera applied to a dark-room window.

It is simply a case of ordinary enlarging, but the sky-line of the half or whole-plate negative should be carefully marked on the sides of the paper; then the parts below these indicating marks should be screened by sliding a serrated card in front during the actual exposure of the cloud negative. This method of enlarging clouds from small negatives is sometimes very advantageous, as it reduces the hard lineal boundaries of some clouds to a soft, delicate and more picturesque appearance.

Painting "Clouds" on Glass Side of Negative.—Painting is adapted chiefly to negatives with thin skies, and saves all blocking-out and all cloud-negative application. I mix on a palette strong indigo oil-colour with Roberson's medium, *quant. suff.*, then with the third finger tip of the right hand I place on the glass small patches where I want the nucleus of a "cloud" to appear. These patches are then carefully dabbed so as to give the appearance and conformation of real clouds. Practise first on spare glass till good results are obtained. These imitation clouds may also be dabbed on clear glass, and placed in front of any suitable negative during printing; all that is necessary is to move the illuminant—magnesium ribbon or gas-flame—in a circular direction, so as to avoid any hard lines from the boundaries of the "clouds." It will be obvious that with this circular lighting the thickness of the glass will allow of the cloud-lines being pleasantly diffused. On no account should the film side be touched with the colouring matter (fig. 20).

J. H. C.



Fig 14 (p. 37.)

A. Horsley Hinton.

Combination Print.



Fig. 15 (p. 40).

A. H. Hinton.



Fig. 16 (p. 41).

A. H. Hinton.

Combination Printing.

By A. HORSLEY HINTON.



IN approaching the subject of combining in one photograph the parts of several negatives two questions may possibly arise in the reader's mind which it is scarcely within the scope of the present article to answer. These are, briefly expressed, "Is it necessary?" and "Is it legitimate?"

But that it does sometimes happen that the straight print from a negative is not so pictorially satisfactory as a print from the same negative with the addition of some part of another deftly introduced, the question as to the necessity or even desirability of the practice might be denied; because, on the grounds of convenience as well as accuracy, there is everything to be said in favour of "straight" or direct printing, provided the subject is so happily disposed or chosen from such a propitious point of view that it fulfils all the requirements, both personal and canonical, of composition and expression. But such cases are not common. Indeed it has been justly said that the assertion, "Nature is always right," is artistically untrue. "Nature is very rarely right to such an extent even that it might almost be said that Nature is usually wrong; that is to say, the condition of things that shall bring about the perfection of harmony worthy a picture is rare and not common at all."

Just as a certain amount of control over the printing of a photograph and the interference with the simple and almost automatic performance of the process, even to the extent of working by hand on the negative, is now almost universally condoned as necessary for the modification of relative tone values, and for the introduction of emphasis and focus of interest, so combination printing has for its object the improvement of Nature in a picture. It aims at supplying some pictorial requirement in which the particular phase of Nature was deficient.

And here we are brought face to face with that principle in art which photographers have been so

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slow to grasp, that a picture is an artificial expression of some impression created by Nature—it is not a copy, a “counterfeit presentment.” If it were, it would be wanting in that essential quality of individuality which is the very breath of life to all art work, and the only excuse for its existence. Here, then, is the answer to the second question which I suggested might arise, “Is it legitimate?”

In attempting to utilize photographic means for conveying to others our personal impressions of Nature, we have no part or lot with the photographic purist, whose interest is in seeing what can be achieved by photography used in accordance with prescription, and constituting a testimony to the user's dexterity and skill.

To such an one let all due credit be given in that by his constant experiments he has removed many limitations, and greatly extended the scope of photography. Such indeed may be said to be his mission—Photography for Photography's sake—but the other side is photography applied to the expression of an artistic ideal as far as it is applicable, and helped to the fulfilment of this purpose by such means as the ingenuity and resource of the artist may suggest. But, as the familiar classical quotation has it, “*Ars est celare artem*,” and the combination print which betrays the method of its production, whether by mere clumsy execution or some flagrant contravention of physical law, is wrong and even contemptible; and, whilst bringing the particular methods employed into discredit, does not make them less legitimate. If the picture to practised eyes gives no hint of how it has been achieved, and awakens no suspicion as to its artificial character, it follows that it *appears* true to fact, and, having had some personal addition made to it and still appearing natural, it is obviously an improvement on Nature, and the end has justified the means.

Whilst I have now allowed this argument in justification of combination printing and all kindred means of attaining the artistic ideal to occupy rather more space than I had intended, it still remains to be made clear that there is a wide difference between justifying some particular

course which circumstances have necessitated and recommending it as desirable in the first instance. The photographer who would combine in a print portions of various photographic negatives merely as an exercise of cunning skill, and for the exhibition of his ingenuity, fails to appreciate the artistic motive which may prompt another man to employ similar means, and places himself on the same plane as the exponent of legerdemain. The artist seeks neither to exploit a process nor to win applause for the mere cleverness of his performance. So long as the picture is well done it matters not to what means it owes its existence; but mark, it must be well done, so well indeed that the satisfied senses of the spectator stifle curiosity, and are as indifferent to aught else but æsthetic pleasure as the voluptuary is reckless of sequel to his sensuous excesses.

And now it is because the rather rough-and-ready methods practised by some do not admit of combination printing being accomplished in the perfect manner which allays suspicion, that it seems to me necessary to adopt a more precise, if more elaborate, system. For instance, one sees it set forth that if a cloud is to be printed from one negative into the blank sky area of another the region where the cloud joins the landscape is to be vignetted by employing a card bent up at a suitable angle, or, the landscape being covered, the sky-line is protected by a cloth or cotton wool moved about at intervals to prevent it from betraying its presence on the finished print, and tall, projecting objects such as the mast of a ship, a church spire, or a tall tree need be taken no notice of, and the clouds printed over them. Could any more unreasonable advice be given?

Gradually shading the clouds off at the sky-line means that that portion of the sky must either be under-printed or else the printing must overlap the horizon and lower the tone, even if only slightly, of the horizon objects. It may be that the spire or tall tree may be required to show as light on a background of darker cloud and printing the clouds over them will falsify the tone and destroy detail. And the reason why such reprehensible

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practices have for so long passed muster is because the perceptions of the photographer and the public are not sufficiently trained to detect the fault, but to the artistic eye the error is palpable.

I would have my reader remember that such methods as I shall try and describe here were only devised by me in response to my own individual needs, the outcome of a little common sense and experiment; but I think that even if the needs of others do not run quite parallel with my own, they may with very little consideration apply them, perhaps with modifications, to the particular class of work on which they are bent.

For instance, I doubt if I should ever have troubled to find a method of combining parts of several negatives if the ultimate picture were to be no more than whole-plate size. In almost every case my goal was a very large platinotype or carbon print for exhibition. At the same time, the combination was effected on a whole-plate or a 12×10 negative, and so if one has no aspirations above those sizes there is no reason why they, instead of being an intermediary or a means to an end as in my case, should not be the final stage. From these whole-plate or 12×10 combination negatives, it has been my plan to make reduced positives and thence to make enlarged negatives; but this is a purely personal matter and does not affect the method employed.

If one were only requiring to make a combination picture on a printing-out paper there would not be much difficulty, because the image is visible and its progress can be watched; and it would only be necessary to paint out on one negative the exact shape of the object to be introduced from the other, and on this other paint out all except the part to be incorporated, making each negative the counterpart of the other. Then, having printed from the first, adjust the second so that the desired part exactly fits the blank space left for its accommodation. This adjustment would be done by holding the print and the negative to the light and moving them about until the blank is obliterated by the image which is to occupy it, and then, placing both in the printing frame, proceed as usual.

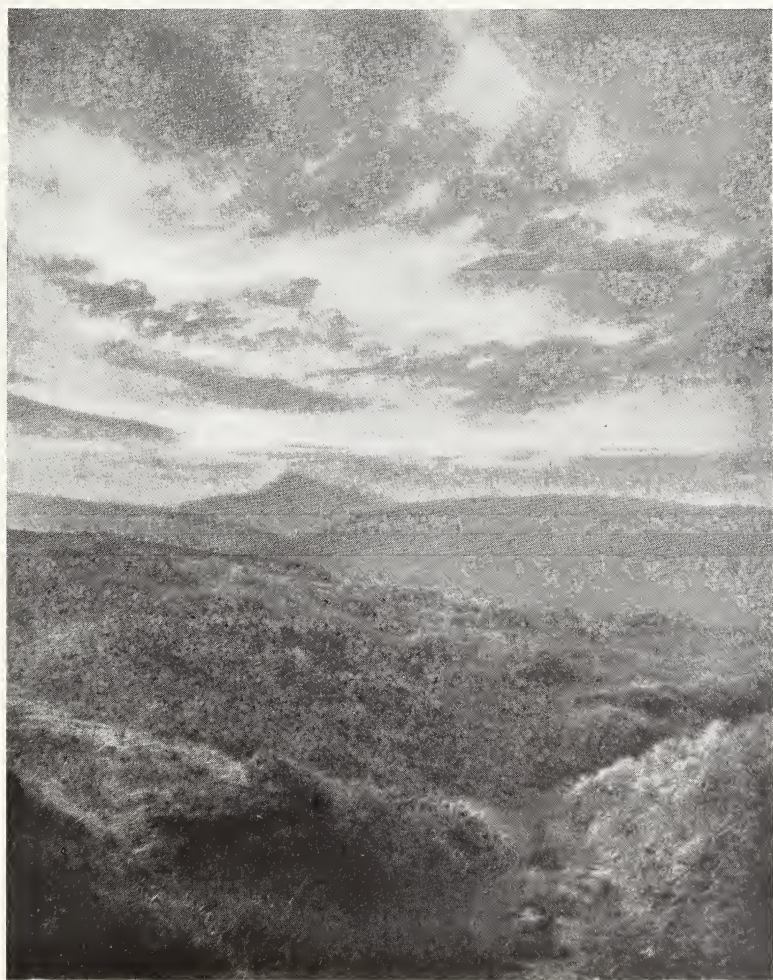


Fig. 17 (p. 41).

A. H. Hinton.

Combination Print.

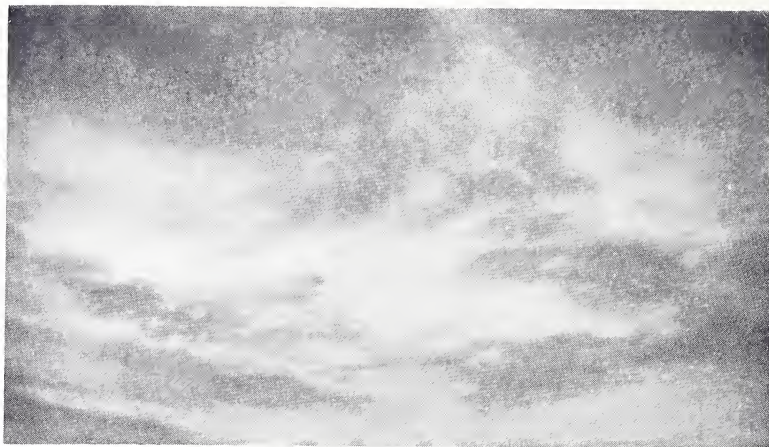


Fig. 18 (p. 42).

A. H. Hinton,



Fig. 19 (p. 22.)

F.C.L.

Cloud Study to show the practical limit of elevation of the Camera.

COMBINATION PRINTING.

Probably every reader is well acquainted with the ordinary way of printing a cloud into a landscape which has a blank white sky, but here let it be said that if the landscape has so dense a sky that it prints white without being painted out, that negative is wrong. If, when the landscape was photographed, there was a cloudless blue sky or a lead-coloured cloudy one, or a sky with only a few faint clouds, blank white is obviously not a true record; and if the relative tone of the sky is wrongly rendered it stands to reason some other part of the scene has also suffered. There can therefore be no greater folly than the course adopted by some of developing the negative so as to secure a dense sky which will print white and save the trouble of painting it out. If the tone scale of the whole scene is to be accurately preserved and the sky or clouds present at the time will not serve our purpose, then there is no help for it, the sky must be stopped out by some artificial means. And if the sky-line be intricate, as when trees project into the sky, perhaps there is no better means of blackening out the sky than to cover the back of the negative with tracing paper and then work on the sky portion with a BB pencil until sufficient opacity has been gained.

Procure a piece of tracing paper of the most transparent kind and as free as possible from granularity; cut this a little larger than the negative to be treated, dip it in clean water, and lay it on or between blotting paper. Lay the negative face down on a clean surface, and, having polished the glass side, paint thereon the narrowest possible border of some strong adhesive such as "Seccotine," applying it very thinly but quite continuously, and about one-sixteenth of an inch or less in width. The tracing paper will by this time have lost its superfluous water and should be uniformly quite damp and limp. On this lay the negative glass side down and press into contact so that the damp tracing paper adheres all round. Now set the paper-backed negative on end to dry when the creases and wrinkles in the tracing paper will have entirely disappeared, the paper being then stretched tight. Then with the fine point of a pencil work

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over the sky nearest to the landscape sky-line for, say, a quarter of an inch in width, and also in between tree branches, etc.* The rest of the sky may be blocked out more rapidly by applying some such spotting medium as "Gihon's Opaque" or "Photopake" to the tracing paper, using the medium as dry as possible so as not to saturate the paper unnecessarily. In many cases, the task of blocking out the sky will now be complete, but if we have for sky-line distant hills or any outline which comes fairly sharply against the sky, it will be necessary to retouch in the orthodox way on the film side increasing the density of the sky all along the sharp outline for the width perhaps of one thirty-second of an inch.

If this is not done, the thickness of the glass intervening between the backing and the print, oblique light will strike the latter through that thickness of glass and the outline will be blurred. The retouching on the film is required to sharpen it, but mark!—it must be done with the retouching pencil, not with spotting medium; the pencil gives a softer outline. Blocking out on the film side with pigment, unless it be over very limited areas, is fatal, producing an intolerably harsh outline.

If, now, we suppose that our combination printing is to include nothing more elaborate than printing clouds from one negative into the white sky area which our blocking out is intended to secure, we first print the landscape and then, placing the cloud negative in the desired position, print the clouds whilst the landscape already printed is shielded from the light. One is told to do this by using a bent card, paper, a cloth or cotton wool, all of which for reasons already given I consider unsatisfactory and inexact. Some teachers advocate covering the landscape with brown or non-actinic paper cut roughly to the shape of the view, but this again is a slovenly dodge, and I suggest therefore making a mask on a thin celluloid film which may be placed over and in contact with the landscape image. To make this mask, expose a celluloid film in contact with the negative, giving a rather full exposure and develop with a strong

*See page 21, 22. *Practical Photographer*, No. 24.

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developer, aiming at a very harsh contrastful effect, a very black solid positive image of the landscape and a perfectly transparent sky. Laying aside for the moment the half-finished print, consider the transparent positive as though it were the print itself and adjust it to the cloud negative in the position you wish the print to be. Then, with a touch or two of the Seccotine, fasten it to the cloud negative which will now have a permanent mask attached to it and needs only to be fitted to the landscape print so that the mask exactly covers the image to be protected. As some portions of the transparent film, positive or mask will not be dense enough to furnish adequate protection, the printing frame can be covered with card or paper where required, the mask being only wanted to cover the sky-line or intricate details coming against the sky. We shall now be able to print the clouds well down on to the horizon, thus carrying out the suggestion made by Constable that clouds should be represented so as to give the impression that they passed behind the distance instead of merely reaching to it.

Precautions as to this, however, and to the right selection of cloud negative will be obviously out of place here.

It will hardly be necessary to point out that should it be intended to print a figure or a group of cattle from one negative into the landscape of another, precisely the same course must be adopted as when merely clouds were imported. The negative containing the figure can be backed with tracing paper and all except the part to be printed blacked out and the edges sharpened by retouching. Similarly the landscape negative, or as an alternative a celluloid film positive can be made from the figure negative and attached to the other.

Thus far we have been dealing with a visible printing process: but with invisible processes some mechanical means must be resorted to in order to ensure the successive negatives being accurately superimposed, or, to express it differently, to ensure true registration.*

*See page 46-49. *Practical Photographer*, No. 24.

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We may disregard carbon, bromide or platino-type printing, and confine our attention to the production of combinations on glass negative or positive plates from which henceforward any number of prints can be made direct with all the trouble and labour of combining done with for ever.

The idea of contriving the exact joining up of several parts of different negatives, but being unable to watch the progress of events and only to see the result when all are developed, may strike

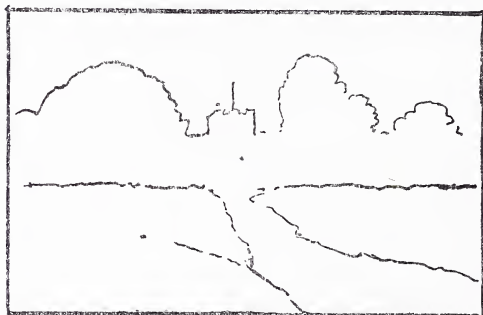


Fig. 51.

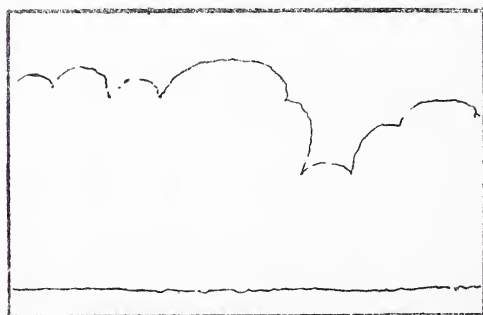


Fig. 52.

the beginner with dismay on account of the "blind man's buff" principle which seems to pervade the entire procedure. On the whole however, I am inclined to think that so long as one works systematically, the absence of being able to watch the progress is to some extent an element of safety; but one must be system-

atic and so rely on mechanical contrivance, exact measurement, etc., instead of that variable quantity, personal judgment.

We have then to begin with a sensitive plate, and, personally, I find little difference in practice between what is known as a "special transparency" plate and an ordinary slow negative plate. Sup-



Fig. 20 (p. 28).

J. H. Crabtree.

Showing the addition of Artificial Clouds.



Fig. 21.

J. H. Saunders.

The Rigours of the Year.

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pose, now, we desire to print on to this parts of three different negative (fig. 14). It follows that in the first place all except the part to be utilized on each negative must be blocked out, and, as already stated, this is best done on the back or glass side of the negative, slightly sharpening up the edge on

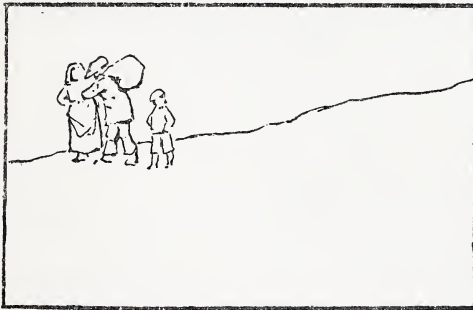


Fig. 53.

the film side with the retouching pencil. It also follows that the first negative must have blocked out on it a portion the exact counterpart of those parts of the other

negatives which are to be subsequently printed in, thus providing blanks for the reception of those portions. Thus, for instance, if we have a general landscape which we will call No. 51, and a cloud negative which we will call No. 52, and another landscape No. 53, containing either a tree or other object, sheep, etc., which we desire to introduce into No. 51. Then on No. 51, the sky portion, that is to say, a space exactly corresponding to the clouds in No. 52, must be blocked out so as to print white; and also a portion exactly corresponding to the tree or sheep in No. 53 and in precisely the position that the tree or sheep are required to occupy. Similarly No. 52 and 53 must have everything blocked out *except* the portion to be used. We have now to adopt some means whereby, having exposed for No. 51, we shall be able to place No. 52 and No. 53 successively in the exact position required. Until we have made a first attempt it may not become apparent; it will probably never happen that the portions of each negative are so situated that the horizon of the cloud negative is at the same distance from the base of the plate as is the horizon of the landscape; nor will the sheep be in the same position on their own

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negative that they are required to occupy on No. 51 landscape. We are nearly certain to have a condition of things represented by the following three diagrams in which we have a landscape (fig. 51) occupying a normal position on a whole-plate negative, a cloud (fig. 52) occupying practically the whole of its plate and with the horizon quite at the base, whilst in fig. 53 we have a group of figures high

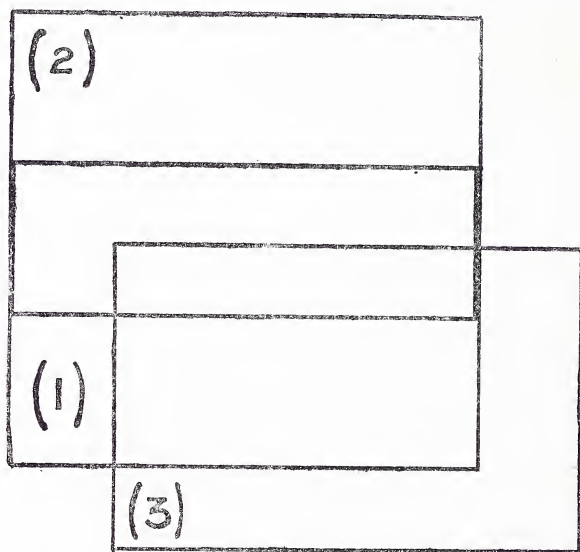


Fig. 54.

up in the left-hand corner of a plate, which figures are required to find a place almost in the centre of the combination picture. Thus during the combined printing the three negatives in successive use will have to occupy a position relative to each other indicated by fig. 54. Where the negatives are marked 1, 2 and 3, the dotted line is not to be considered at present. This slightly complicates matters, but at the same time it opens up possibilities of making a larger picture and achieving what will probably be considered a more striking result than would otherwise be possible.

Now suppose instead of printing No. 51 negative on to a plate its own size, we take a plate of about the size indicated by the dotted line in fig. 54, we

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shall then be able to include the whole of the clouds. As we are supposed just now to be working with whole-plates ($8\frac{1}{2} \times 6\frac{1}{2}$), we shall require a plate 12×10 , and unless we are prepared to cut down negative No. 53—a course not to be recommended—we must use a printing frame with plate glass front of sufficient size to include the whole series of negatives in the relative positions which they successively occupy and which are here indicated.

I will now proceed with this combination printing, and with the help of diagrams endeavour to make the matter clear; but I shall have to ask the inexperienced to follow me step by step as closely as possible.

A 15×12 printing frame will probably be large enough, although when working with $8\frac{1}{2} \times 6\frac{1}{2}$ negatives I prefer a 20×16 frame of the box form because they are usually more reliably made, and we have to rely a great deal on the absolutely true rectangularity of the frame to get true registration; also the frame must have plate-glass in front.

Keep fig. 54 before you and you will see that whilst printing No. 51 negative on the 12×10 plate the top portion above where the $8\frac{1}{2} \times 6\frac{1}{2}$ landscape negative ends must be covered whilst the landscape is being covered. Also when the landscape has been exposed and the clouds are joined on, that portion of the 12×10 plate below the cloud negative must be covered. This means that the blocking out of sky on No. 51 must in some way be extended say four inches, and likewise the blocking out on the cloud negative designed to protect the sky-line whilst the clouds are printing must be similarly extended so as to cover all the lower part of the 12×10 plate. I do this by attaching to the top edge of the landscape negative and to the bottom edge of the cloud negative (gumming it to the back or glass side) a piece of opaque or non-actinic paper of such a size that it exactly makes up the balance of the 12×10 plate, even though the whole of the 12×10 plate is not required to be used.

This then gives us what is suggested by fig. 55, namely, the landscape No. 51 with the sky blocked out and paper attached so as to extend the protection which the blocking out should provide; and

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similarly the cloud negative with the landscape blocked out and paper attached to the base sufficient to cover the lower part of the picture.

There we have the principle, but in practice I proceed somewhat differently, and as already sug-

gested instead of blocking out the landscape image on the cloud negative itself, I provide a mask which shall more exactly cover the intricacy of sky-line.

We will now take a fresh example, which, whilst serving as an example of combination printing, may also demonstrate to what extent in the modification of a subject the mere blocking out of a sky may be carried.

In fig. 15 we have a straight print from a whole-plate

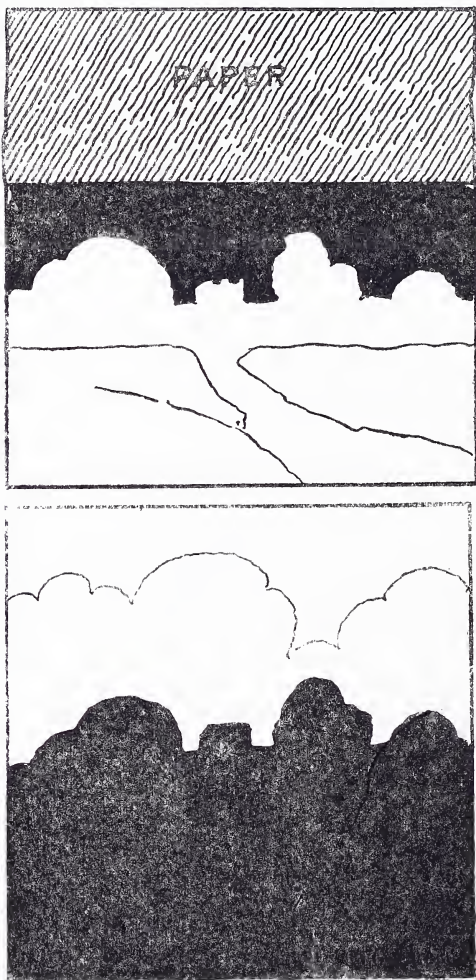


Fig. 55.

negative. In blocking out the sky, however, preparatory to introducing portions of other nega



F.C.L.

Fig. 22 (p. 13).

To show the thin nature of a Cloud Negative.

Fig. 23.



F. C. L.

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tives, it seemed desirable to alter the sky-line, removing entirely the misty group of trees, and working a little on the hill at the left-hand

side make it appear to fall behind the nearer hills on the right, fig. 16. Next, a hill with a pointed summit from another negative is introduced, and we should then get a result such as fig. 17.



Fig. 56.

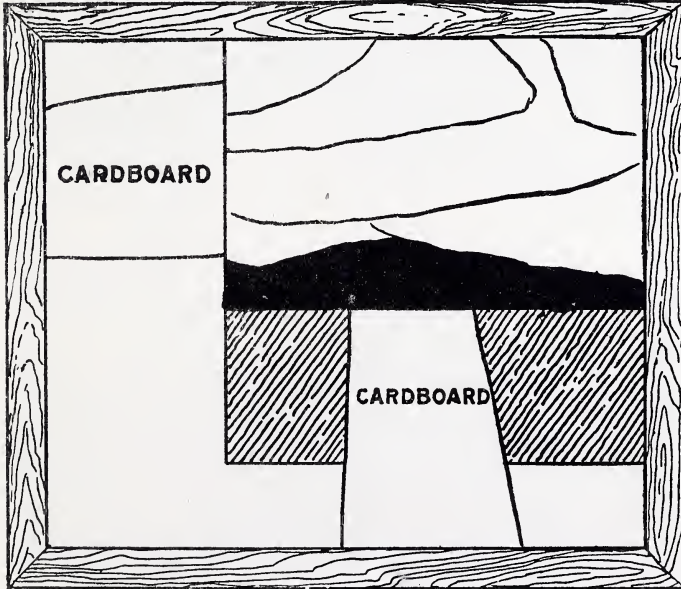


Fig. 57.

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But the effect of early morning or late afternoon light glinting over the tufts of heather and bracken would be much better suggested if suitable clouds could be introduced, and so we select the clouds marked Fig. 18, and in Fig. 17 get the combined result.

Now let us see precisely how this has been effected. First, as has been suggested, the sky must be blocked out on the negative from which the straight print (Fig. 15) was made; but as we propose introducing a more extensive cloudscape than the area of that print would contain, we extend, as it were, the blocking out by attaching a piece of opaque or non-actinic paper of sufficient size to protect a surface as large or larger than the clouds are intended to occupy. Let Fig. 56 represent this. We next take a 12×10 slow plate or a flat film. Placing the negative (Fig. 15) in the corner of the printing frame, we wedge it tightly with pieces of cardboard, taking care that the cardboard is not thicker but preferably thinner than the negative. This is shown in Fig. 57. Next place the 12×10 plate or film upon it, taking the utmost care that the corner and two sides accurately fit into the same angle of the printing frame as is occupied by the negative.

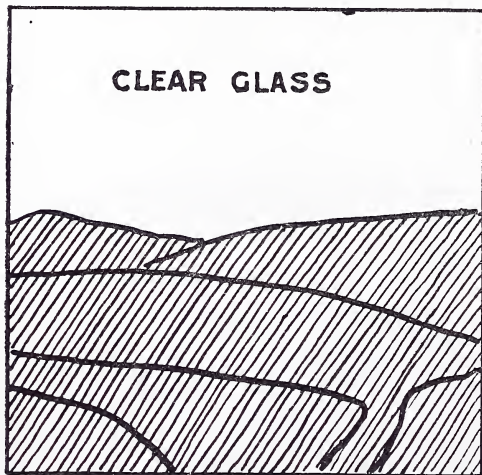


Fig. 58.

Close the frame and expose to gas or candle light precisely as when making a transparency or lantern slide.

Give a fairly full exposure and develop with a strongly restrained developer, aiming at the maximum amount of

COMBINATION PRINTING.

density. This done, we shall have a hard dense positive with a clear transparent sky which has been protected by the blocking-out and the opaque paper. This is represented in Fig. 58, and we will call it the landscape mask; its purpose being shown more clearly anon. As it is to serve as a mask we must see that it is sufficiently dense to effectually perform that function, and if this has not been achieved by development, it will be necessary to go over the film with a brush charged with red water-colour paint or a non-actinic spotting medium. This mask may now be laid aside until required. We now begin as it were all over again.

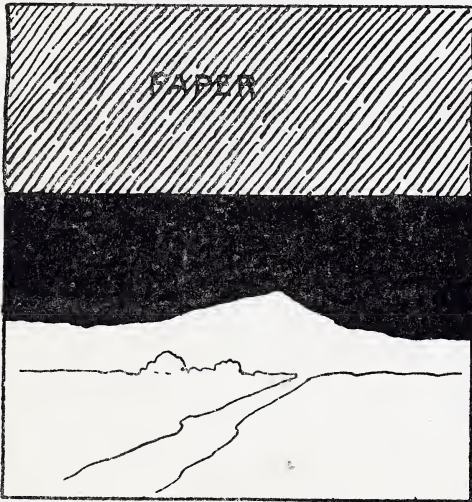


Fig. 59.

The negative, with its attached opaque paper, need not have been removed, or if it has, it must be restored to the position occupied in Fig. 57; a 12×10 plate (not a film this time) fitted into the angle of the printing frame, and for security this also should be wedged in with cardboard.

A careful and accurate exposure is now made. The previous mask-making will have served as a useful test or trial, and after exposure, *having marked which is the bottom or which the top*, it is put away in a light-tight box until we are ready to print into it from the next negative. We will suppose Fig. 59 to be a negative containing the desired conical hill or mountain. Block out the

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sky and attach opaque paper at the top as in the first landscape negative. Take the 12×10 mask and adjust this mountain negative until it is in the position which, if the mask were a print, would seem satisfactory; cut a piece of card which will exactly make up the size of the 12×10 mask, and fit this into the same angle of the printing frame which we have used before. We now make a 12×10 mask from this in just the same way as before, calling it mask No. 2; this can be set aside until required later. Now place mask No. 1 in contact with the mountain negative, and super-impose the 12×10 plate which has received one exposure and is waiting for the next. Take care that mask and plate, as well as the mountain negative and its cardboard, fit exactly into the corner of the frame, and then expose. Again remove the plate into a place of safety whilst you adjust the cloud negative to the mask No. 2, the latter still fitting the corner of the frame. If now the twice-exposed plate be also fitted to that corner, its previously printed portion will be exactly covered or protected by the mask; and the remainder of the plate which has hitherto remained unexposed will be left uncovered to receive the cloud image if a third and last exposure be now given. The plate is then developed. We now have the combination picture as a transparent positive image on a 12×10 plate; any spotting or retouching can at this stage be conveniently done, and then a fresh negative can be made by contact or reduction with which ordinary contact printing or enlarging can be carried out as may be desired.

All this is not so tedious as may appear. The whole principle depends on making each negative up to the size of the whole picture projected, by pieces of cardboard and, having blocked out from each all except the part to be used, each is furnished with a film or glass mask, also of the full size, and then if each in succession is made to occupy precisely the same position by fitting into the corner and against the sides of the frame, each occupies the same relative position with respect to the combination plate, and each is in turn protected by its mask.



Fig. 24.

F. C. L.

A Straight Print from an Ordinary Negative, cf. Fig. 25.

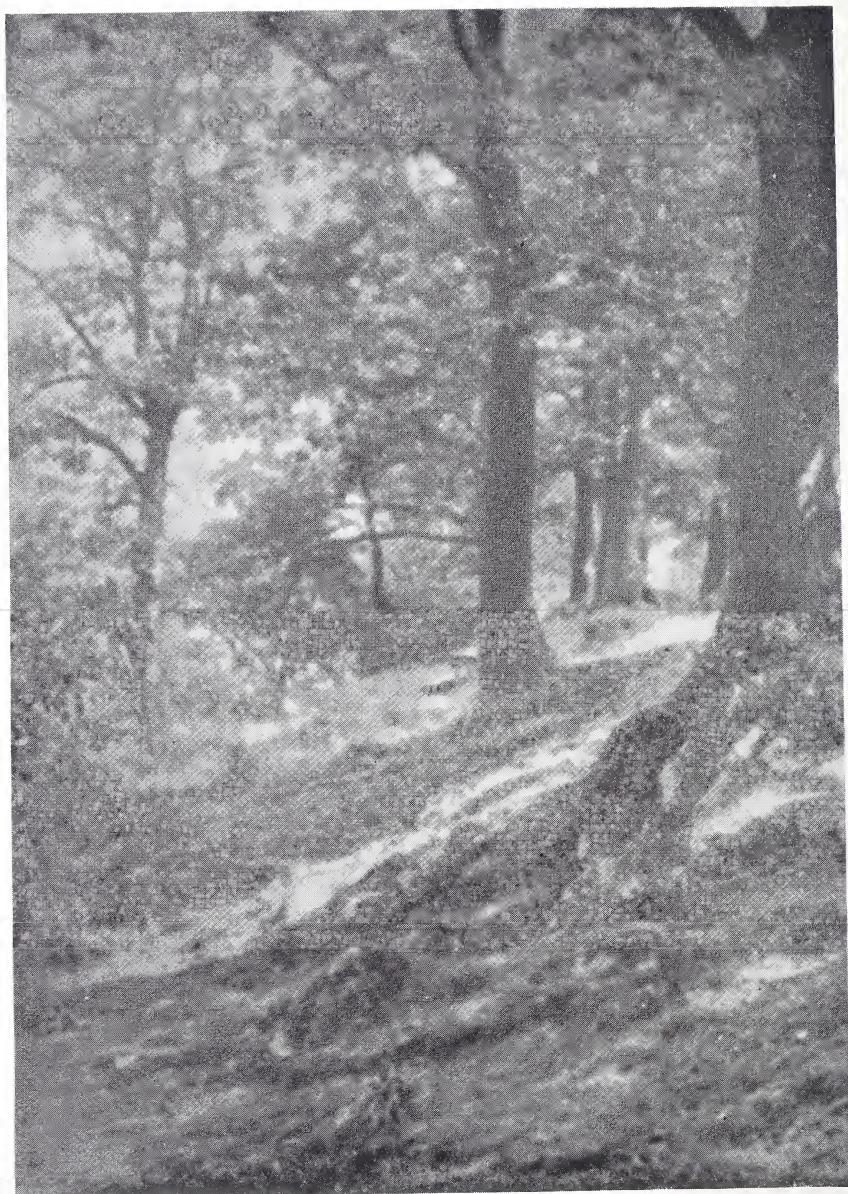


Fig 25.

F.C.L.

Thin sheet of clear glass placed between film and printing paper,
see p. 50 of *P.P.* No. 24, cf. Fig. 24.

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In order, if possible, to remove any confusion which the foregoing description may have left in the reader's mind, let us briefly recapitulate the course of events thus.

Having made a mask from each of the landscape negatives, first print from the principal landscape negative, all but the portion needed being blocked out. Next place the mask No. 1 in the exact position just occupied by the negative (by wedging it into the angle of the printing frame) and adjust the second landscape negative, printing from it with the mask No. 1 either in contact with the plate which is to form the picture or else at the back of it, in which case the mask will be separated from the undeveloped image it is to protect by one thickness of glass. Next substitute mask No. 2 for the second negative and print a third time from the cloud negative.

It may be well to here point out that in thus getting the different portions accurately fitted in, and all on one positive plate, it is unquestionably attended with this difficulty, that we have to deal with several (in this case three) exposures, and yet in one development each must come up to the required relative density; hence it has been suggested by some that a simpler alternative method would be to secure the three separate portions on three distinct films, and then, adjusting these by hand each to the other, mount them between a sheet of glass and a thin sheet of celluloid.

In such case precisely the same system of masking and obtaining registration by the angle of the frame would be gone through, in order that each film should have a clear transparent portion coinciding with the printed part of the others.

After having followed the course laid down once or twice, the sequence of printings and maskings should become perfectly clear, and then the whole routine will be followed quite easily, nothing being left to guesswork or personal judgment, each step being controlled entirely by impersonal measurements and mechanics.

Another Method.

Another method of securing correct registration in successive printings was adopted by the writer a long time before devising that just described, which, although more suitable for very large negatives, may still be used with complete success with medium sizes, provided the printing paper employed

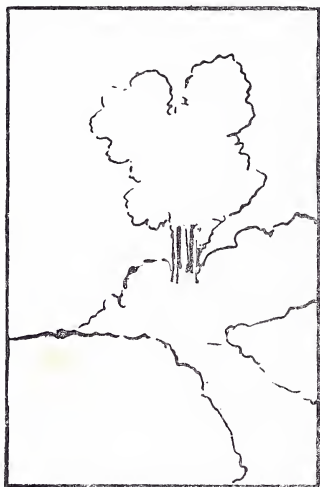


Fig. 60.

is of a kind that does not need the pressure which a printing frame provides. In this method a printing frame is entirely dispensed with, a board covered with felt being substituted. The paper is laid on the felt and the negative merely placed thereon, and the weight of the glass plate itself is all we have to rely on to secure contact between the negative and the paper.

Of course, the board must be absolutely flat and not subject to warp, and hence a drawing board

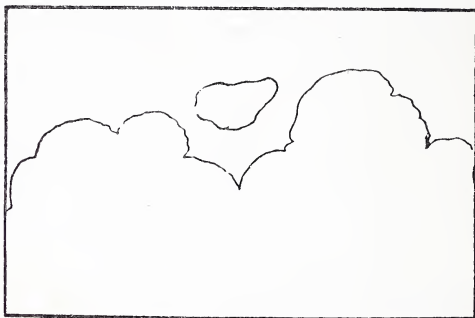


Fig. 61.

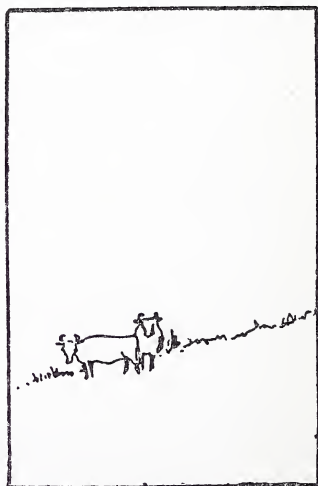


Fig. 62.

clamped at both ends is perhaps as good as anything. On this should be stretched as tightly as possible a piece of felt such as that with which billiard tables are covered, and it will be found that, except when very stout papers are used or paper which is much given to curling, the slight yielding yet resisting surface of such cloth will keep the paper in contact with the superimposed negative.

In order to print from several negatives in succession, we shall in the present method dispense with masks, but each negative must be attached to a sheet of glass of such dimensions that if all the negatives were superimposed in the exact relative positions which the combination of their several parts will necessitate, the sheets of glass will all coincide. That is to say, suppose figs. 60, 61 and 62 to be a landscape, a cloud and a group of cattle respectively, but a portion of the cloud only is required and the cattle which are down in the corner of their own negative are required to occupy a place in the centre of the landscape. Each negative must be attached by its glass side to a sheet of glass in such a position that when all three sheets of glass are put together the various subjects occupy the position relatively which they are destined to fill, and all the glass, including its attached negative, must have everything except the part required to print blocked out. We shall then have, as it were, a three-fold negative, *i.e.*, a three-film negative, each film of which will be printed from successively, a negative with the various images superimposed, which various images will subsequently be printed in succession. This is shown in Figs. 63, 64 and 65, or in Fig. 66, where we may suppose the three glasses are being placed together to see if the several negatives fall in their intended places. If they are, and all except the portion to be printed is blocked out on each, then we have only to devise some plan whereby each glass (with its attached negative) can be successively placed in the exact same place as the one preceding it to ensure the unblocked-out portion printing into the blank space left by the previous negative. This can be attained by no more elaborate method than by sticking pins into the paper

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along three sides of the first negative, and then, if the second negative touches those pins we know it must be in the same position as its predecessor, and so on.

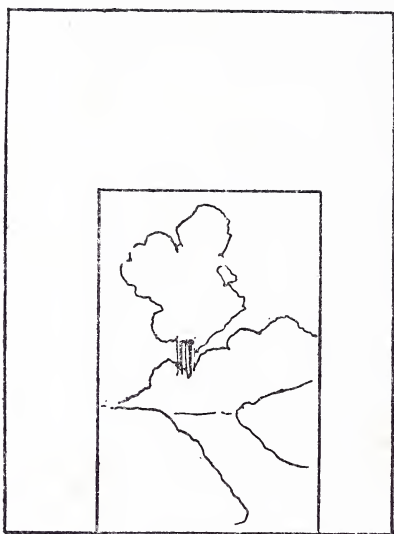


Fig. 63.

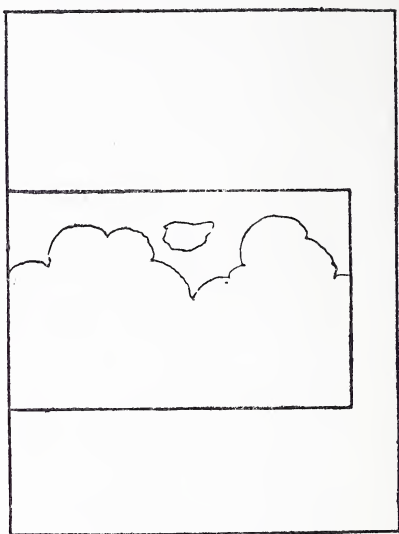


Fig. 64.

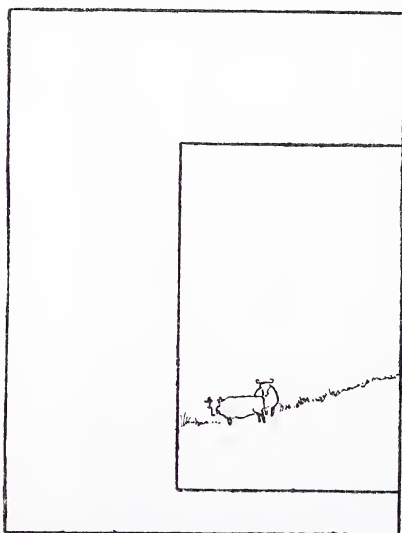


Fig. 65.



Fig. 66.

Fig. 26.



Fig. 27.



Fig. 28.

C. W. Somerville.

The Elements of a Combination Enlargement.

(See pp. 60 and 61 ; also Fig. 29).



Fig. 29.

From a Combination Enlargement.

(See p. 61.)

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I will try and make this clear by a diagram. In Fig. 67 we have the drawing board covered with felt which had better be taken over the ends and fastened with tacks on the other side or along the ends, on this we see a piece of printing paper destined to become the picture, and on this a negative with two stout pins—large bank pins or laundry pins are best; these must be driven through the paper, thus holding it in position, and must press so closely to the edges of the glass that the plate can only be moved in the direction where there are no pins—in no other direction must it be possible for the plate to shift the smallest fraction of an inch. When the first negative is finished, it is simply lifted up, taking care not to dislodge the pins, and the second one is substituted, and so on. If after printing from the second it be deemed advisable to print more from the first, it can be reinstated for that purpose. Each negative having had all but its required portion blocked out, each will only print its portion, protecting by the blocked-out area the parts corresponding to the other negatives.

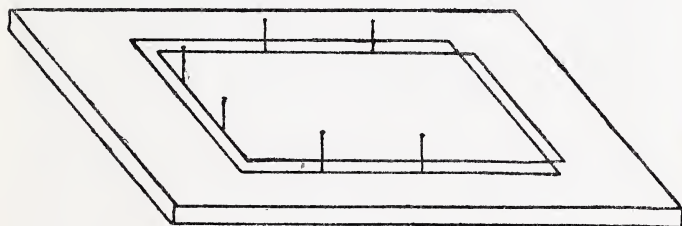


Fig. 67.

In order to get the negatives on to the glass sheets in the proper place, first block out on each negative all that is not required.

Here, as in the previous process, this had better be done on the back or glass side, and the edges sharpened up by retouching on the film. Then, holding the first two so that you can look through them to the light, shift them about until they are in proper relative position, and then, with a few touches of Seccotine, or similar adhesive, fix one to its sheet of glass; next, holding another sheet of

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glass to the first so that their edges are flush, attach the second negative in like manner.

If the third negative is of cattle or figures, as has been suggested by the diagrams, all but the cattle having been blocked out, a space must be painted out or masked on the landscape negative which will print white and so leave a place for the cattle to be printed in. This can best be done by first making a silver print from the blocked-out cattle, and, without troubling to tone it, cut it out carefully with scissors and attach this to the film side of the landscape negative, which has already been mounted on glass. Then, holding the third sheet of glass adjacent to, but in front of the landscape negative, slide the cattle negative about on it until it is seen that the image of the cattle comes exactly over the print which has been attached to the landscape. Then attach it to its glass, complete the blocking out by pasting non-actinic paper over the sheets of glass, and we shall then have the three complementary negatives which together will make up the combined image.

If I have succeeded in making the matter clear, it will be obvious that any number of plates can be printed from in succession; each one is the counterpart of the sum of all the others, and as the pins provide for each being in register with the rest, they can be interchanged and printed from in any order.

Incidentally it may be mentioned that, thanks to the pins, a negative can be removed as often and for as long as is desired during the completion of its printing, the whole image being thus exposed to view; provided, of course, we are using a visible printing process. Personally, I print platinotype in this way and find it a great help to be able thus to inspect the entire picture instead of only a portion of it, as when employing a printing frame.

Should any difficulty arise as regards securing contact between paper and negative, the trouble may be overcome by providing a sheet of thick plate glass sufficiently large to cover the whole of the image on that negative which will contribute the largest portion of the picture, and laying this on the top, so get increased pressure.

Combination Printing in Enlargements.

By C. WINTHROPE SOMERVILLE, F.R.P.S.



ALTHOUGH the purposes for which combination printing is used are almost wholly pictorial, it should be quite understood that this chapter is not written from the artist's point of view. Balance, composition, lines, masses, etc.: these must be secured by the worker, but having obtained them in the several negatives, we shall endeavour to show some economical and efficient methods for combining the component parts which go to form the compound print. Therefore when such topics as the lighting and position of clouds in relation to landscapes, etc., are mentioned this is purely from the technical, manipulative aspect.

First Considerations.

Combination printing in enlarging is not really a difficult matter, providing forethought, care and extreme delicacy in handling be maintained.

It must be remembered that the printing will be invisible till developed, so that every consideration must be given to the densities of the various negatives.

Prints of these should be made beforehand in small size, and in their production development must in all cases be carried as far as it will go. The chief preliminary consideration is whether any of the negatives will allow of such an exposure that the printing may be developed right out: because, if not, the exposure as well as the development has to be manipulated, and this makes the work rather more complex.

A Simple Case. Simple combination printing, such as the addition of clouds to a landscape or seascape with an even horizontal line,

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presents no difficulties. The blocking out of the sky enables us to give any required exposure to the landscape, which, when developed, indicates the horizon-line, thereby allowing of easy and correct adjustment for the second printing. But when a blank space has to be left for the inclusion of a figure or other factor in the landscape, we have to go more carefully to work.

Introduction of Figures. Careful judgment must be exercised in such matters as the size of figures, position and lighting of clouds, their height and distance, etc., in relation to the rest of the picture.

If the exact position of a figure cannot be ascertained at the time of the exposure of the plate, it should be determined afterwards by trial. By far the best method of doing this is to make an initial and experimental enlargement of the size intended for the final print without any clouds, figures, etc. Now print the figure or other adjunct, cut it out and stick it on the enlargement lightly with paste, and view it at various distances. If it has to go in a certain spot then it must be made to the correct size. Pinning the big print on the enlarging screen and projecting the figure on to it will greatly help us in determining its proper size. A still better plan is to block out the rest of the figure negative, and make a positive of this and project it on to the big print. The cut-out figure is eventually used as a mask when the final print is made.

Clouds. The position of clouds is best ascertained in the same way, although practice soon enables us to place the clouds direct from the negative on to the final print without making a preliminary positive for guidance. In land- and sea-scapes the correct or similar lighting of the clouds must be strictly observed. Of equal importance is the position of the clouds in relation to correct perspective. It must be noted whether the horizon line of the landscape negative is in practically the same distance plane as that on the cloud negative; for it is a common error with beginners to photograph a well-defined cloud high up in the sky and place it lower down in the combined print in order to obtain a more brilliant and



Fig. 30.

A straight print from a negative from which a small distant hill (shown in Fig. 39) has been stopped out.



Fig. 31.

The same with high altitude clouds wrongly introduced near the horizon.



Fig. 32.

Clouds and distant hills printed in from a separate negative.



Fig. 33.

Clouds designed to aid the composition.

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powerful effect. Clouds on the horizon are the weakest in intensity and must be kept so. It is preferable when putting in skies to soften slightly by over-exposure, otherwise there is a tendency to produce the effect of their falling on to the landscape or coming in front of the horizon. Where dark masses of sky prevail the landscape should be more fully exposed in corresponding parts, or the necessary effect cannot be produced successfully during development.

Apparatus. The work in combination printing is very much facilitated with suitable apparatus. An enlarging *lantern* is practically a necessity. An enlarging *camera* is perhaps the most inconvenient. For the benefit of the beginner we may explain that an enlarging lantern is an apparatus in which the negative (being illuminated in a suitable manner) is projected by the lens on to a screen outside, or separate from, the camera part. In an enlarging camera the screen is not separated, but is a part of the apparatus, all being contained on the same baseboard. Thus, with a lantern the operator can get between the lens and the screen to manipulate the paper on the screen. This is not possible to any practical extent with an enlarging camera. This difference is of the utmost importance in combination work. The screen preferably should be of wood or such material that the paper may be *pinned* to it. This is very necessary, because with several printings it is very unlikely that the paper will be placed twice in the same position.

Glass cannot be used for keeping the paper flat against the screen, as the print will be wet after the first printing.

Red and yellow glass caps, or preferably swinging screens, are necessary for the purpose of adjusting the paper during all printings after the first. (On our own lantern, the glass is hinged on to the lens board in such a manner that it swings round and covers the lens aperture. This is extremely convenient, as it is practically instantaneous and without vibration.) A lens-board with horizontal and vertical adjustment is invaluable in combination work, facilitating registration in second, third and fourth printings.

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As regards the pictorial point of view, we must mention the risk of combining negatives made with lenses of different foci, noting in passing that the perspective can be altered to a great extent by first focussing sharply on the screen at full aperture, and then racking the lens in or out as required (thereby putting the image out of focus) and stopping down till sufficient definition is obtained.

Durability of Bromide Paper. Bromide paper, with ordinary careful handling, is an exceedingly durable printing medium. It is easily possible to make as many as eight printings, with development between each one, on the same piece of paper, without any fear of deterioration of the emulsion, or staining. This refers to papers manufactured by English firms of well-known standing.

Continued experience has convinced us that the sensitiveness of the paper is but very slightly diminished with repeated and prolonged immersion in suitable developers; so that it is quite safe to give the same exposure to a wet print that has previously been ascertained on a dry trial piece.

Now, as the process of combination printing about to be described is on the system of exposing, developing, re-exposing and developing, for the second and third printings and so on, some consideration must be given to the most suitable developer, with regard to non-staining properties, etc.

Development. Experience shows that a combination of metol and hydrokinone possesses advantages far beyond any other developer. With reasonable dilution a print may be immersed for several hours without deterioration, both re-agents being of an extremely clean working nature.

In hydrokinone we have one of the hardest of developing re-agents, and in metol one of the softest. A judicious combination of the two (which may be modified with great facility according to our requirements) gives us a great range of power.

Stains. Stains on bromide paper will not occur if three conditions be observed.

1. The print is not left too long during development without being rocked.

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2. The print is not left exposed to the air while any of the developer remains in it.

3. The print is kept covered with solution, or rocked for at least fifteen seconds after placing in the fixing solution.

Thus 1 and 2 imply the advisability of using a comparatively large volume of developer, *e.g.*, not less than 4 ounces in a 15 in. × 12 in. dish.

The following is a good developer for bromide work :—

NORMAL SOLUTION.

Metol	100 grains
Hydrokinone.....	50 "
Sulphite of soda	3 ounces
Carbonate of potash	1½ "
Bromide of potassium	10 grains
Water	80 ounces

**Exposure,
Development,
etc.** On no account must the beginner have internal qualms as to whether it is worth while trying to do anything in the work owing to the difficulty here and the uncertainty there, because there is no difficulty whatever if system in the manipulation be observed.

In order to make the description as clear as possible let us deal with each case separately.

Case 1. Two printings.

Where the first printing cannot be developed right out.

Ascertain by trial the exposure required to give the desired effect when development is carried as far as ever it will go with a *normal solution*. If the negative is of such quality as to allow of this, well and good, we can expose our large print.

If the negative is such that the shadows are too dense before the high-lights are sufficiently detailed, we must over-expose and stop development at the desired stage. The developer must be diluted to half strength. This will produce detail in the high-lights before too much density has accumulated in the shadows. Wash the print free from the developer.

Now take some caramel backing or photopaque and mix to a thin paste with hypo solution of about 1 in 10 strength.

The print is allowed to drain thoroughly, and is

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preferably blotted with pink blotting paper. With a fairly large and pointed camel-hair brush paste over the whole of the developed part of the print, *keeping the line of colour within a sixteenth of an inch of the unprinted portions*. The colouring matter is only to act as a guide, and is washed off easily enough before the second development, but must be washed thoroughly to prevent the hypo interfering with the still sensitive parts of the print. Remember to wash the colour downwards or away from the unprinted parts.

The reason for keeping the colour line inside the printed parts is on account of capillary attraction which otherwise would cause the hypo to overlap on to the unprinted parts.

The object of the above proceeding is obvious. Development of the first printing is incomplete, hence, when the second printing was developed the first would gain intensity. The process is perfectly safe providing such precautions as washing the colour downwards and away from the second printing and undeveloped parts be observed.

In cases where a blank space has been left for the insertion of a figure or other portion in the first printed part, the washing must be performed by directing the stream of water on to the blank space. The caramel paste should be sufficiently thick to prevent its running when brushed on. When washing it off use plenty of water, and run the water rapidly in order to dilute the hypo as quickly as possible.

When the first printing can be developed right out, the above proceeding is, of course, unnecessary, but the practice of covering the first printing with caramel backing is a great advantage, as it prevents harm from accidental exposure during subsequent printings. Needless to say it is easily removed by washing and is in all ways perfectly harmless to the paper.

Where clouds only have to be added to a picture, the print may be turned upside down in the dish or on a sheet of glass, and the developer applied with a brush or plug of cotton wool so as to prevent it touching the other exposed parts. But this is not a very good method, as we get insufficient developer,



Fig. 34.

F.C.L.

Straight Print from Ordinary Negative.

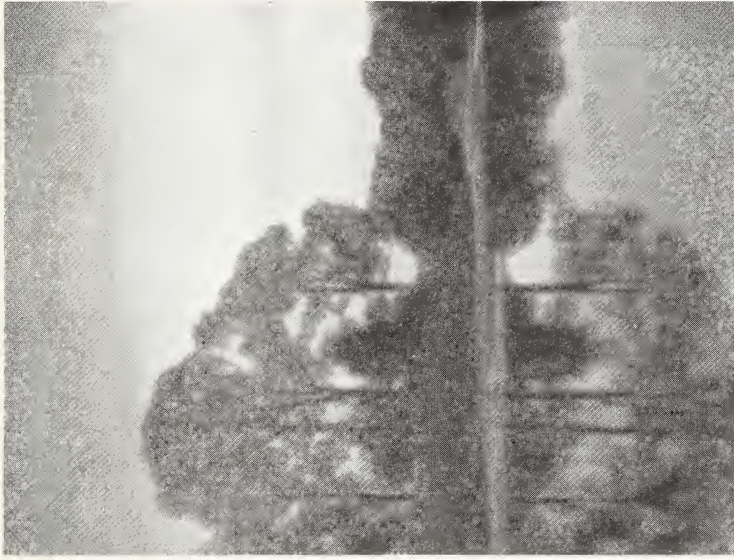


Fig. 35.

F.C.L.

Printed through Celluloid and sunned (see p. 50, *P. P.* 24).



Fig. 36.

F.C.L.

Straight Print on Matt Paper.



Fig. 37.

F.C.L.

Printed through Bolting Silk, *vide P.P. 24.*

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and therefore development on the horizon line owing to its running away from that part; also there is a great liability to stain, as the small quantity of developer placed on the print soon oxidizes. Streaks of uneven development also occur owing to inability to keep up uniform contact.

The development of the second printing, when the exposure for the first allowed of complete development, is straight work; but where the first print is incompletely developed care must be taken to match the tone or intensity of the two printings.

Whether the quality of the negative for the second printing allows for complete development or not, it is inadvisable to expose for the purpose, but rather to ascertain previously the amount of over-exposure which will allow of development being stopped when the two intensities are as similar as possible. If this is not done we shall invariably obtain a different tone or colour of deposit, although the quality of the second negative will affect it to a greater or less extent.

Such a difference in colour may be rectified by an after-treatment to be described, but it is better to match the two intensities as near as possible during original development.

Case 2. Three printings.

Where one of the exposures allows of complete development.

The proceeding is precisely similar to Case 1, except that where one exposure allows of complete development. Let this be the last printing if possible, as any tendency to loss of brilliancy due to prolonged immersion of the paper in the developers will be greatly counteracted by the greater intensity of the last printing.

Where none of the exposures allow of complete development the process is similar to case 1. For each printing a fresh developer should be used, otherwise there is a tendency to loss of brilliance.

Use the developer of such strength as to allow of plenty of time to judge intensities, and remember that a weak developer will produce precisely the same effect as a strong one if allowed to complete its action; but never at any stage before the final will the intensities be the same.

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Also remember that strong doses of bromide of potassium have a restraining and hardening influence on development *after the image has appeared*, but that smaller amounts must be used if added to the developer previous to development.

Simple Combinations. The simplest form of combination work is that of printing in skies to land and seascapes. All sky negatives should be previously blocked out below the horizon line, and landscapes above the horizon. It is preferable, when possible, to print and develop the landscape first, as it allows of a much better adjustment of the two printings.

Project the image on to the screen of a size slightly smaller than that intended for the print. Place against this a piece of red or brown paper and carefully trace the outline. Cut this out and paste on to a piece of card. Now make the print of the size required and develop and rinse as described.

Project the sky image on the screen, place the coloured glass in front of the lens, take the wet print and adjust it to the correct position for printing the sky. The exposure for the sky should, of course, have been previously ascertained, and, as before stated, little or no allowance made for a reduction of sensitiveness in the emulsion. During the exposure, which if possible should not be *less* than thirty seconds, the landscape mask is held about one inch away from the print and a quarter of an inch above the horizon, and several times lowered till the edge of the landscape is distinctly visible, then quickly raised again. In this way the sky is vignetted on to the landscape.

Where trees or other prominent objects come on the horizon it is better to print the clouds first and slightly shade during exposure those parts where the objects will come. In this case, of course, the mask may be made for the sky, but it is not always necessary, as the landscape intensity is generally greater.

A very excellent proceeding in the above manipulation is to focus the image on to a movable piece of white cardboard, then place the wet print on the card and fix it to the screen after it is adjusted to the correct position.

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The Introduction of Figures. There are two methods of doing this.

1. Before exposing the body of the print lightly paste the mask of the figure in the correct position; this leaves a blank space. Develop as usual, and adjust the figure to the blank space. In very large work some allowance may have to be made for the stretching of the paper, but it is generally insignificant.

2. Make a contact print of the figure and cut it out very carefully with a penknife. The body of this contact print is now pasted on to the glass side of the figure negative so as to have only the figure visible. The figure is then adjusted to the blank space left on the body of the print. This method is in no way preferable to the other.

Compound Printing. In figure work generally, such as figure studies, great attention will have to be given to the lighting, and the slightest dissimilarity is fatally evident. In compound landscape and seascape work where sky and more than one figure or incident are introduced, the landscape is printed first, leaving blank spaces for the figures, etc. The figures are then printed in separately without intervening development unless some special reason requires it; and finally the sky, as the other parts are covered with the backing paste as described.

After-treatment. When all printings are made and developed the print is fixed as usual.

Intensification and Reduction in One Operation. Now it may be found that some of the printings are of different tone, owing to various causes, and that local intensification, reduction, accentuation or repression is required.

All these are most advantageously done in daylight in the following manner:—

Bleach the washed print (preferably after drying) in the following

Potassium ferricyanide	10 grains
Potassium bromide	10 „
Water	1 ounce

Wash for three or four minutes and apply a

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developer diluted to $\frac{1}{20}$ normal. The lightest tones will develop first, the half-tones following and the shadows last.

At any stage the development may be stopped and the print immersed in the fixing bath, whence it will emerge in the same apparent condition as when immersed. At any stage during development action may be stopped by washing, and local application of developer employed for accentuation of shadows.

Local application of hypo and caramel may be also employed. This must be washed off before another application of the developer. Complete redevelopment will give more or less intensification and an equalization of tone-colour, besides a general clearing action.

The Dark-Room Light. Canary medium or yellow ground glass is better than anything else. Use as large an area of light-diffusing surface as possible, but carry out development either in the shadow or away from the light, occasionally taking the print closer for inspection.

The Illustrations. With regard to the illustration, which was made with the purpose of embracing many of the points given in this article, a description of its construction may be of use.

Fig. 26 is the body of the print. The negative is not all that could be desired in quality. It is rather too thin and hard to allow of an exposure for development to the limit. It was therefore over-exposed to a considerable degree in order to produce sufficient detail in the high-lights of the water swirling round the rocks, without accumulating too much density in the shadows at the time development was stopped. It was then pasted over with caramel and hypo to within a sixteenth of an inch of the horizon line of the left-hand rock, the sea line and the island.

Fig. 27 shows the clouds. These had to be reversed in order to suit the lighting of the landscape, which at the time of exposure was coming from the left-hand side. They were over-exposed slightly in order to produce a rather softer effect than in the original.



Fig. 38.

A Plain Sky, slightly toned down.



Fig. 39.

Clouds from Reversed Negative.



Fig. 40.

A strong Contrast Sky effect with a Dark Print.

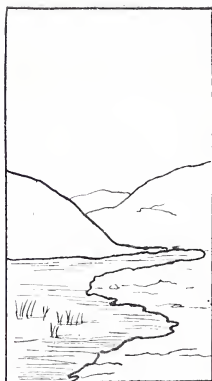


Fig. 41

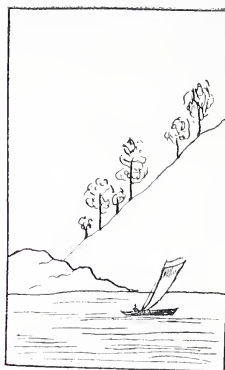


Fig. 42

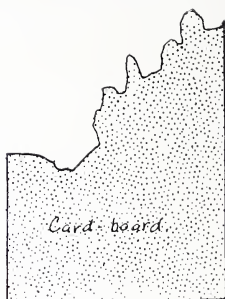


Fig. 44

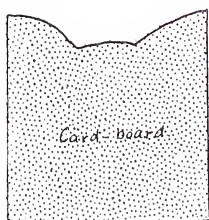


Fig. 43

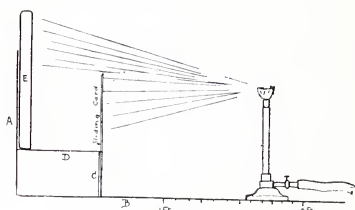


Fig. 46



Fig. 47

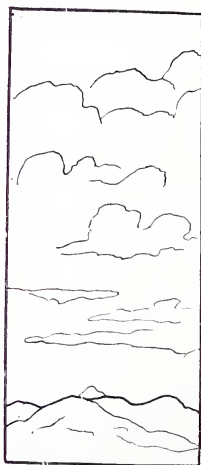


Fig. 48



Fig. 49

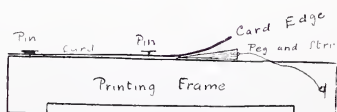


Fig. 45

COMBINATION PRINTING IN ENLARGEMENTS.

Fig. 28 shows the boat, also reversed, in order that it might be sailing into the picture instead of out of it. Now, a blank space had to be left for this boat by putting on its mask before the first printing, and this space had to be covered before the clouds were printed. To do this the caramel and hypo mixture was allowed to remain on the print for five minutes and then washed off, the boat space covered with caramel *only* and the clouds printed. As a matter of fact only the sails and boat were covered up as it was too difficult to trace a fine enough line for the mast, and here it will probably be seen to be defective in intensity. The printing of the boat was rather under-done, otherwise the mast would have been sufficiently intense to have shown well against the clouds. The whole print was then fixed, washed and dried. Fig. 29. Next evening it was bleached and re-developed as described, and during development the shadows were locally treated for greater intensity; the water under the heavy cloud also intensified, as well as the shadow of the wave and gullies in the rocky bank. The print was again fixed. The total time occupied in the construction of the print was about four hours.

Important Factors in Combination Printing.

By A. LOCKETT.



HERE are several factors of great moment in combination printing, inattention to which often mars what would otherwise be successful work, by betraying the contrivance that has been made use of. Correct registration and careful attention during the different stages of printing will go far towards securing a satisfactory result, but something more than this is required—it is necessary, if not indispensable, that the density, degree of definition and general character of the various negatives used should be as much as possible alike.

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Advisability of Equal Density in Negatives.—A little consideration will readily give the reason why the density of the different negatives is important. The colour and strength of the image secured during printing is largely dependent on the density or vigour of the negative, other things being equal. It is obvious therefore that, unless the various negatives used in making a combination picture are fairly uniform in this respect, the resulting print will be unequal in depth and brightness, or perhaps even of different shades of colour. The latter defect becomes particularly evident if P.O.P. or albumenized paper is used. It will be noticeable, also, when working with platinotype. For carbon or bromide work the difficulties of gauging exposure are much increased unless the negatives are of equal density, and there is a risk of muddy and uneven prints.

Equal Definition in Negatives Desirable. — A common fault in combination prints, and one which is soon noticed, arises when there is any marked difference in the definition of the negatives employed. For instance, it will look very absurd to combine a soft, diffused, out-of-focus figure study with a background of sharply-defined foliage. Of course, it is not intended to suggest that all parts of a picture must necessarily have the same definition—this would often prove extremely detrimental to pictorial effect. What is meant is that any striking incongruities of focus must be avoided by having the same general amount of definition in the combining negatives, unless the desired result clearly indicates the policy of adopting a contrary course.

Uniformity of Printing Light.—It is as well to aim at securing as uniform a light as possible while printing, for practically the same reason as renders it expedient to have the combining negatives of equal density. If printing is commenced in a bright light, it is not advisable to proceed to the next stage if the day becomes dull and gloomy, since rapid and slow printing on the same picture would produce an unevenness of depth or of colour. In such a case the printing should be stopped for

IMPORTANT FACTORS IN COMBINATION PRINTING.

the time being, and finished at a more favourable opportunity. Slight variations in the brightness of the light may be compensated for by changing the position of the printing frame.

Incongruities to be Avoided.—All the component parts of a combined print must be lit from the same direction. Some very unpleasing results have been produced by the neglect of this rule. Another thing which must receive particular attention is that the different portions of the picture are of correct relative scale, that is to say, of suitable size as regards each other. In landscape subjects, it is important that the combining negatives should have been taken at approximately the same time of day and season of the year; excepting clouds, where greater latitude is allowable, so long as the clouds are not inconsistent with the remainder of the photograph and are correctly lighted. A very careful study must be made of the tone values required for the harmonious expression of the picture, so that each part may be printed in of exactly the right shade, neither too light nor too dark. If there is the slightest sign in the combined photograph that anything has been introduced or added, or that it is not quite what it appears to be, the attempt must be considered a failure.

Best Printing Frame for Combination Work.—The printing frame used should be several sizes larger than the negative; one of the old-fashioned box form with hinged cross-bars instead of springs, and provided with a plate-glass front, is strongly recommended, since there is less risk of shifting the negatives or paper while fastening up the back, or during examination. A cardboard carrier to exactly fit the inside of the frame, with a central opening the size of the negatives to be printed from, will be found of great assistance. A narrow strip of black paper, lantern-slide binding being very suitable, should be pasted round the margin of the rectangular opening to prevent stray light coming through at the edges of the negative.

Aids to Correct Registration.—It is sometimes difficult to see through the back of the paper to obtain accurate registration, especially after the

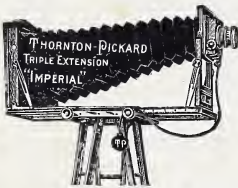
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major portion of the picture has been printed. A good plan is to support the printing frame in an inclined position on a table, by the aid of books or a couple of wooden blocks placed at the sides. A lamp giving a good light is then arranged behind the printing frame, so that a tolerably strong illumination is thrown through. With the assistance of this contrivance, it should be easy to secure exact registration, even with dense negatives or awkward subjects. With platinotype, where only a faint image is perceptible, and for carbon and bromide work, this method is unsuitable, and other means must be adopted. A very satisfactory procedure is to obtain rough prints in P.O.P., on pieces of paper cut to exactly the same size as that on which the combination print is to be made, taking care that each negative occupies the same place in the printing frame. By alternately superposing the P.O.P. prints over each other, so that they register as the proposed picture is intended to do, and marking the position of each print with numbered pencil-marks on the back of the cardboard carrier previously referred to, there will be obtained a series of registration marks for the actual combination print, so that no difficulty will be found in correctly placing the latter on each negative in succession. Where there is no visible image, it is obviously necessary to indicate the top and bottom of the print by pencil-marks on the back.

Usefulness of Films.—Flat films, or paper negatives, have a distinct advantage in combination printing, since they are readily printed from either side. It is also possible to cut out portions of them, or to trim them to a given shape, as may sometimes be required. Retouching or brush-work of any kind can be done on both sides, and the back of a celluloid film may be given a fine matt surface by rubbing with pumice powder, thus securing an excellent ground for the application of black lead or stumping chalk. When this is done, care should be taken to dust off all the surplus pumice powder, and to avoid getting any on the film side.

NOTE.—The land parts of Figs. 30—34, 38—40, are all from the same negative, but the sky portion has received different treatment.

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A New Printing Frame.—Messrs. Houghton (88, High Holborn, E.C.), have brought to our notice a piece of apparatus which has a *very special interest to the readers of this number of the Practical Photographer*, viz., the Cherrill printing frame. Very briefly described, we may liken it to a box printing frame, in which the negative is firmly and safely held in one and the same position without any chance of shifting. The back is one flat, solid, hingeless piece, which can be removed and replaced again and again always in the same position, thus securing true register. The printing paper is (temporarily) fixed to the back by means of a harmless sticky substance. Thus, the whole print may be removed for examination, and accurately replaced again and again. Mask carriers are provided so that any degree of *local control* can be brought to bear on the printing at any stage. Thus it will be seen that here we have just the very thing that the pictorial printer requires, and therefore we strongly advise all our would-be-pictorial workers to write to Messrs. Houghton saying they have seen this note, and send a stamped addressed envelope (about $\frac{1}{2}$ -plate size), asking for a copy of the descriptive booklet, which should be kept for reference alongside this present and our previous volume. The Cherrill is made in whole-plate size, but this also takes half-plate, five by four and quarter-plate negatives.

New Gaslight Paper Developer.—Messrs. Kodak have introduced a new developer for their world-famous Dekko. It enjoys the name of Nobra, and is sent out as a solution in 2/- bottles which contain 8-oz. For use take one part Nobra and add 2 parts water. The special point claimed for this preparation is that it does not produce streaky, liney abrasion marks, which are all too familiar to those of us who use glossy bromide development papers. Although one can generally remove these marks by rubbing with a tuft of cotton wool moistened with methylated spirit, yet we must all admit that Nobra, the preventer, is better than Alcohol, the occasional cure. It will be seen that Nobra in practice works out at 2/- per 24 oz. of developer, i.e., a penny per oz.

New Ortho Plate.—Messrs. Zimmermann (9 and 10, St. Mary-at-Hill) send us a sample of "Agfa-Chromo plate," for which is claimed that "with this plate the ratio in the value between the blue and yellow-green sensitiveness is maintained with ordinary short exposures, *without the use of a yellow screen*, giving a rendering of the contrasts of yellow, green, and blue sufficiently correct for the purpose of landscape photography." We are eagerly looking forward to verifying this important statement by a few experiments at an early date, as we have formed a very high estimate of all the Agfa productions which have passed through our hands, and anticipate some interesting results which we shall refer to hereafter.

Burglary! From Messrs. Houghtons' Camera Works, at Hackney in August last were stolen, 1 Regular Sanderson Hand Camera, ($\frac{1}{4}$ -pl.) No. 7502. and Goerz Lens, No. 1457. 1 Junior Sanderson Hand Camera, ($\frac{1}{4}$ -plate), No. 10424, Aldis lens, No. 1043, in Unicum shutter. 1 Regular Sanderson, ($\frac{1}{4}$ -plate) No. 10722, with B. & L. lens in Unicum shutter. Should any of our readers come across any of the above property will they please communicate direct with Messrs. Houghtons', 88, High Holborn, W.C.

New Developer.—Messrs. Houghton have introduced "Ensignol," an excellent quick-acting developer, which is equally suited for plates, papers, or films. Its rapid giving of density makes it especially useful for cases where halation effects are likely to be encountered. It is claimed that it has no irritatory effect on the skin. Ensignol for use is prepared by dissolving $2\frac{1}{2}$ oz. of soda sulphite in a pint and a half of luke-warm water. To this add $\frac{1}{4}$ -oz. of Ensignol. This quickly dissolves and then the developer is ready for use without further addition. "Ensignol" sells at 1/9 per oz. so that we here have five or six ounces of first-class developer for a penny. We hope to extend our experiments with this new agent and report progress later on.

Lens List. Messrs. Taylor, Taylor & Hobson (Leicester) have sent us a really useful little leaflet which gives at a glance the cost of quite a long list of cameras by our best makers already fitted with Cooke lenses. The contemplating purchaser of a new camera or lens should certainly write for a copy of this list as he will then see how to meet his special needs in the most advantageous way. This will be sent post-free to our readers on application, if only they will mention *The Practical Photographer*.

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Lantern Slide List. Messrs. Sanders & Crowhurst (71, Shaftesbury Avenue, W.) send us a list of over 200 slides by Mr. James Ricalton who has been with the Japanese army since 1904. The slides embrace an immense variety of Russo-Japanese war subjects and also scenes and incidents in Korea and Manchuria.

Price List. Messrs. Wellington & Ward's (Elstree) price lists are always neat and tasteful. The one just to hand is no exception to this rule. On the front page is a splendid head and shoulders of an old man taken on a Wellington speedy plate and reproduced by means of a Wellington Ortho Process plate. One cannot imagine anything better. The price list part includes Plates, Films, Bromide Papers, Gas-light papers, P.O.P., Self-toning P.O.P., Carbon tissues and supports, etc.

Plate Washer. Mr. W. Tylar has introduced the "Hypochute" for washing plates with a minimum quantity of water. The apparatus consists of a metal tray taking three negatives side by side. The tray is tilted up at one end and flows in an even stream over the surface of the negatives in succession. The apparatus in general principle is comparable to the "cascade" washer in which the negatives are one over the other instead of side by side as in the "hypochute." In either or both cases we get the maximum of efficiency with the minimum of water used.

Tablet Crusher. Mr. Tylar also sends us a neat little wooden box by whose aid it is a simple matter to reduce to powder the very convenient tablets or tabloids so much appreciated by the tourist photographer.

Warwick Competition Awards. 1st, (£10) C. A. Slatter. (£5) Luton Camera Club. 2nd, (£5) A. R. F. Evershed, (50/-) South London Photographic Society.

Sheffield Photographic Society. Open Exhibition, Oct. 28th.—Nov. 4th. Hon. Sec.: J. W. Charlesworth, 1, Joshua Road, Sheffield.

A Sumptuous Catalogue. Messrs. Penrose & Co., 109, Farringdon Rd., have sent us a copy of their latest, most profusely illustrated, and comprehensive catalogue (340 pages, 640 illustrations). Every photographic library should certainly contain a copy, as it adequately represents the technical side of process photography at the present moment, and is thoroughly up-to-date. Libraries and heads of process firms should write to Messrs. Penrose for terms for this book which is very much too costly to be sent gratis. It is really a handsome and valuable reference work, well arranged and printed.

Prints for Criticism, etc.

*Will competitors and others please kindly note our rule to the effect that when prints are to be returned stamp must be sent **WITH THE PRINTS**—not afterwards?*

Will contributors to our various competitions kindly refrain from sending under one cover prints for different competitions? This not only gives us considerable trouble, but involves the risk of the various pictures not being properly entered for the competition for which they are intended. It is far better for all concerned to send each lot of prints in separate parcels.

E. M. C. (Norwich).—"The Woodcarver" is too hard in the high-lights, i.e., you have carried development too far, thus getting the high-lights too solid, and so lost gradation. Make a contact positive on glass (transparency), and from this a new negative (see page 26, also 53, in our last number). "The Goldsmith": Technically much the better of the two, but the boy does not seem to be really working—only pretending. The tools on the wall are in too sharp focus, and the face is a little too waxy. This is a case where the positive mask would work wonders (see page 27, *The Practical Photographer*, 24). Your work is improving.

B. S. (Bedford).—1. A young man with a pipe in his mouth very seldom looks pictorial. The face is too flat. N.B.—It is the shadows that make an object look round and solid. 2. Sitter looks as though he had just made acquaintance with the business part of a tin tack on the chair. He also is lacking in light-and-shade relief, or rather lacking in shadows. A front lighting is seldom satisfactory in a portrait. The figure seems a little too cramped in the picture space. In both the background is quietly strong and telling.

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F. C. D. (Weston-super-Mare).—Prints rather too red in colour. 30. The narrow white line is a mistake. Distribution of light and shade is too patchy. Aim at grouping lights, also the shades together. 31. This is a better arrangement. The triangular corner of the field requires much darker printing (see note on Control Printing in our last). 32. One or other of the light houses near the margin should be cut away, as they cause the spectator's attention to pass to and from. You have really two pictures here, as you will see by dividing your print into about two equal parts.

A. L. S. (Chiswick).—Your prints arrived in a somewhat crushed condition, as you did not enclose them between cards. 1 is better than 2 in every respect. 1. Trim away $1\frac{1}{4}$ inch from bottom and $\frac{3}{4}$ from right-hand side. Tone down the sky and water a *little*. Technically good; pictorially rather patchy from so many small high-lights. 2. Lighting is too flat. Sun behind the camera is seldom satisfactory, and especially with a light sky. You have too much uninteresting water, and can advantageously spare a good half inch. You are to be congratulated on having a complete set. The out-of-print numbers are fetching fancy prices. Thank you heartily for your kind words.

R. T. C. (North Shields).—Where are the particulars of your prints? We can only guess what has happened. 1. The general look of fog may be due to stale paper, too much light in dark-room, over-exposure, too strong developer, too thin negative. 2. Very much better in all respects. By comparing what you did in the two cases you can thus find out what was the cause of the fault in No. 1. For bromide papers keep the negative rather soft and thin, and use a freely dilute developer and patience.

T. B. S. (Lower Beddington).—1. Nearly good, but requires pulling together. The blank sky is quite untrue. Study *The Practical Photographer* 25 and also 24. In this case a softly-graduated cloudless sky would be best. 2. This is much better, and capable of being made into a good thing. Tone down the sky (pages 29-36, *The Practical Photographer* 24) and rub down the white dresses of the children (page 16, *The P. P.* 24). Darken the further side of river bank. 3. Not so good. You have over-developed, and so got too much contrast. This is a case for a positive (transparency) mask (page 27, *The P. P.* 24). Not suitable for vignetting.

W. B. C. (Crumpsall).—1. The sun was too much at your back, hence a somewhat flat look about the picture. Print not properly trimmed, hence the houses appear to be falling over towards our right. Trim away $\frac{3}{4}$ -inch of the roadway. 2. Under-exposed, not enough shadow detail, and high-lights too hard. The best thing to do with an under-exposed negative is to print it on the roughest paper obtainable. 3. Under-exposed also. Do not cut your figures at or near the ankle.

G. W. (Glasgow).—Figures; both staring at the camera! Avoid this whenever possible. Not enough light and shade on the faces. Too much shade with so light a background. River: A pleasing arrangement, but rather too black and white. Try a cream crayon or other rough tinted paper, and use a freely diluted developer. Do not over-develop and aim for more gradation. Bridge: This fails just in the opposite way, *i.e.*, too weak; not enough dark in the picture. As a composition it is rather too liney.

W. H. M. (Runcorn).—A. Figures are rather too small in proportion to the rest of the figure. Remove $\frac{1}{4}$ -inch from each side and $1\frac{1}{4}$ inch from top. Tone down the near part of the ground and also the sky (see *The Practical Photographer* 24). B. Here, again, the white patches seen through the trees require toning down—a quite easy matter, as you will see in our last number. You could well spare $2\frac{1}{4}$ inches from the top, and this would very greatly improve matters.

E. J. L. G. (Bristol).—Mount is much too light for "Twilight" effect, and you have carried development a trifle too far, and so got the high-lights too sunlit. But a little local treatment ought to put this right. 2. The looking-through-the-trees picture is seldom or ever satisfactory in a photograph, because either the distance is *over*-exposed or the near (framing) trees *under*-done, as in your case. This is an instance where the positive mask would improve matters (page 27, *The Practical Photographer* 24). Your distance is nearly good, but the sky is too suggestive of blank paper. 3. Here, again, the whole paper sky is out of tune and does not correspond to nature's sky. A little cautious toning down would greatly improve. No, there is no reason why an improved print should not be set up. We are always glad to know that our suggestions have been found helpful.

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THE PRACTICAL PHOTOGRAPHER.

T. C. (Grange-over-Sands).—Something wrong with your mountant, as the prints are all curling away from the mounts. 1. A charming little bit that only requires a little local control to get the near part of foreground a little stronger. See "Local Control" in our last. 2. The nearest part (of large leaves) requires a little more pluck—i.e., a few touches of the retouching pencil for a few high-lights and some of the shadows deepening. 3. Very charming bit of composition. This requires size, i.e., enlarging to about 15×12 to give it grip and dignity. Your work is certainly very promising.

R. S. B. (Darlington).—1. Not a very appropriate title. It suggests either "A thirsty moment" or something of that kind. Negative is under-exposed. Too many different colours of mounting papers; the great art of mounting is simplicity. A contrast of colour is generally better than a match. 2. Sky and water too light, too much like paper. These require toning down. (See *Practical Photographer*, 24). This mount is better than No. 1. No. 3. This is quite the best of the three in every way, quietest and most suitable mount, better composition and most harmonious in arrangement of light and shade. The light patch of water requires subduing just a trifle.

F. A. T. (Sheffield).—1. Just a little too cold and metallic. Does not seem to suggest July sunlight. You have not chosen your printing paper quite wisely. 2. This again does not harmonise with the "Golden Hour." It wants more size. Try an enlargement on rough bromide paper and get a rather warm black in sepia colour. 3. Rather confusing. The near "study" does not come away from the background foliage. You have not paid enough attention to focussing. Instead of $f/22$ you should have used $f/8$, and got a softened background.

O. W. F. T. (Derby).—Your work is steadily coming along in the right direction. 1. Wild Rose.—Leaves are a little too dark for green; the blossom part is distinctly good, and you have "placed" your subject with good taste. 2. The two windows right and left are like two staring eyes; one or other must be cut away; I give an alternative trimming in blue. You are inclined to over-develop and so lose some value in the lighter tones. 3. This is not up to your standard in any way. The sky is quite out of tune and more like June midnight than April mid-day. The subject is not pictorially promising.

J. M. B. (Stockport).—Again you are just beaten by a shave. Had your print in the first instance come along as it now is, you would have been among the elect, but while you have been advancing, so also have some of the others. Thus the fortunes of war. Your second edition is a decided advance on the first. As a composition it would gain by the removal of about $\frac{1}{4}$ inch from the lower edge. The other print is too black and white—too suggestive of a silhouette—a cut-out stage scenery effect. The light on the water is too strong. Look up p. 27 in *Practical Photographer* 24.

R. M. (Grangemouth).—1. There is something wrong about the lighting here. The near and distant parts seem all in one plane (like a cut-out scene on the stage), probably due to a back light. The so-called differentiation of planes is vital, and is very largely a question of light and shade. 2. This blank paper sky, though small in quantity, is very seriously wrong in quality, and not up to your usual good form. The rest of the print is just as much too dark as the sky part is too light.

S. J. W. (Santaveri).—A piece of excellent and careful technique. Trimming not quite true, as your building is leaning over to our left. Pictorially, you need a little more shadow, i.e., either an earlier or later hour. You are inclined to over-develop and so get extra strong light and shade effects.

R. P. S. (South Shields).—The sun was rather too much at your back, and hence the picture is somewhat flat. A side or slightly front light is best for suggestion or relief. The straight line of near hedge comes awkwardly, and should have been avoided if possible. First paste your mounting paper onto stout card before putting on the print. Glad to help you at any time.

THE

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Practical Photographer's Dictionary of Daily Practice

PART I.

Aberration. Achromatism. Affiliation of Photographic Societies. Architectural Styles (how to distinguish). Astigmatism. **Backing** plates. Bottles, to clean and to cut. Blacking for inside camera. Brass, to lacquer, cleanse, stain. Bright negatives, how to obtain. Bromide paper hints. Bromide paper negatives. Brushes for various photographic purposes. **Centring** prints on the mount. Centre of lens. Changing lamp, to extemporise. Cleaning prints. Coins, to photograph. Coma. Conjugate foci. Contrast, control of in negatives. Copying, various hints. Copyright. Cork squeezer, to make. Corks, to prevent losing, render air-tight, etc. Counting seconds. Covering power of lens for enlarging, etc. Cracked negatives, to print. Cuff protectors. Curvature of the field. **Dark-Room** hints. Lamp, safe-light for ortho plates, testing lamp. Dark slides, to examine. Development, factors, hints, judging image, etc. Dishes, to clean, to mend. Dissolving hypo quickly. Distortion. Dropping bottles. Drying plates quickly. **Enlarging** hints. Exhibition rules. Exposure, factors, hints, maxims, with pinhole. **Factorial** development. Films, to remove from glass. Filtering hints, folding papers. Flare. Flat contrasts. Focal length of lens, to ascertain. Focussing glass, to adjust. Focussing scale, to graduate, to test. Focussing screen, unbreakable, substitutes for. Funnel stand, to make. **Gaslight** printing hints. Ghost images. Ghost photography. Glass rods and tubes, to manipulate and make various useful articles. Glittering objects. Graduates. Ground glass, to make. **Hand Camera**, to clean. **Hypo** jug, to graduate. Hypo, tests for. **Labelling** bottles, canisters, etc., ink for, varnish for. Leather strap, to repair. Lens, to unscrew. Lens cap, to make. Lens, images. Lens testing. Light leakage in the camera. Line drawing from Bromide print or P.O.P. **Magnifiers.** Mounting hints. **Numbering** plates and negatives. **Papier Mâché** dishes, to repair. Photographic Copyright Union. Pinhole apparatus, to make. Pinholes, size of. Pipes burst by frost, to repair. Print sticking to negative. **Red Book.** Register of dark slides, to test. Restoring faded P.O.P. prints. Retouching hints. Rocker for developing dish. **Saturated** solutions. Scale, photographing objects of any desired scale. Seconds pendulum to make. Sink fittings, to make. Shutter test for vibration. Spherical aberration, to test. Stoppers, to prevent sticking, to unloose. Stops, to measure. Stripping films from cracked negatives. Supplementary lens, to select and estimate for effect. **Tap Fittings.** Ten per cent. solutions. Trimming knife, to sharpen. Tripod leg, to mend. Tripod points to prevent slipping. **Vignettes**, dark (Egyptian or Russian), to make. Vignetting hints. Vulcanite dish, to mend. **Washing** a plate quickly. Water, pure from snow, tests for. Waterproof cement. Weather signs. Weights, to make.

FORMULÆ, TABLES, Etc.

Angle of view. Converting Formulæ. Equivalents. Carbon formulæ. Clearing bath. Developers. Encaustic paste. Fixing baths. Ground-glass varnish. Hardening baths. Inks. Intensifiers. Mountants. Paste. Putty. Redevelopment. Reducers. Sensitizing baths. Toning baths. Varnish. Waterproofing. Depth of focus tables. Permits. Sizes of plates. Papers. Temperature notes.

LIST OF PHOTOGRAPHIC SOCIETIES, Etc.

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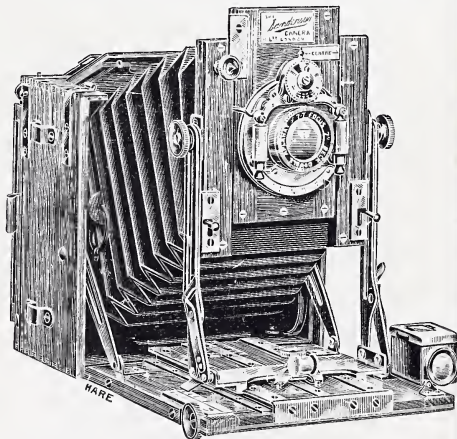
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